



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

THEORY OF MUSIC  
AND  
HARMONY  
BY  
JAMES M. TRACY.

Ms. 319.2

**HARVARD COLLEGE LIBRARY**



**FROM THE LIBRARY OF**

**PROFESSOR JOHN KNOWLES PAINE**

**Received January 8, 1919**

**LIBRARY**

Compliments  
of the Author







0

**THEORY**

**AND**

**RUDIMENTAL HARMONY.**

**BY**

**JAMES M. TRACY, A. M.**

**TEACHER AT THE BOSTON CONSERVATORY OF MUSIC.**

---

**BOSTON:**

**WHITE, SMITH & CO**

**Copyrighted, 1873.**



Mus 319.2

MOST RESPECTFULLY DEDICATED

TO THE

President and Faculty of Dartmouth College,

BY THE AUTHOR.

---

This work is designed for all students and others who wish to become thoroughly acquainted with the numerous signs and characters used in writing music. It also gives the various forms and sizes of intervals, together with their appropriate names; the movement of the different voices or parts, the different divisions of time, the various kinds of chords with their inversions and relation to each other, and arrangement into fundamental harmonies. It also contains a large number of practical examples in writing harmony correctly, introducing all the intervals and chords as used by the best composers of modern times.

It is confidently believed this little work will prove a most valuable aid to all who are in pursuit of accurate musical knowledge, embracing as it does, everything necessary to be understood by first-class teachers and amateurs. The author's practical experience in this branch of musical education is sufficient evidence of his ability to issue a work which will be found useful, practical, and reliable. Hoping that all those who study these pages will not be disappointed in good results is the earnest wish of the author.

---

*Boston: Gould, Music Pr., 18 P. O. Square.*

Harvard College Library  
Jan. 8, 1919.  
From Library of  
Prof. John Knowles Paine.

## CHAPTER I

### MUSICAL SOUND AND MUSICAL ART.

In order to understand this subject thoroughly we must begin by stating the difference between general and musical sound, for they must be separated.

Sound comprises everything which is perceptible to our sense of hearing—or everything hearable. Sound is produced on our ear by oscillation, or vibrating motion of air, or any other intermediate body which is perceived by our auditory nerves.

MUSICAL SOUNDS are produced by a regular number of vibrations, fast or slow: if slow, the tone is low; if quick, the tone is high. The ear ought to be able to distinguish between slow and quick vibrations, (high or low tones,) otherwise there can be but little use for a person to study music. A musical sound of some definite *pitch* is called a *tone*.

*Sound* is a hearable action of a vibrating body. A *musical* sound is a sound of perceptible determinable pitch. A *tone* is a sound of known pitch, either high or low. *Unmusical* sounds are those which do not have a regular well defined number of vibrations. They are mixed or confused, of unknown pitch, and toneless—such sounds are termed *noises*. The string of a violin, piano, or guitar can be seen when vibrating, but the stroke of a bell or common drum-head is produced in a different manner, and cannot be so readily seen.

Elastic bodies are employed for musical instruments, as bell metal, steel for tuning-forks and piano wire, cat-gut for violins and guitars, glass for bells, &c.

On wind instruments it is the column of air within that vibrates and not the instrument itself; the length and breadth regulates the pitch, high or low.

## THEORY AND RUDIMENTAL HARMONY.

## CHAPTER II.

## ON TONES.

THERE are two ways of producing musical tones: one by the human voice, and the other by inanimate musical instruments. Music produced by an inanimate instrument is called instrumental music. Vocal music, or music produced by voices, is called human music. The inventive musical art is the talent of being able to combine musical ideas and put them in form so as to produce a perfect musical composition. The executive musical art consists in the power and ability of rendering a piece of music properly after it has been composed, whether vocal or instrumental. The theory of musical composition teaches us how to put tones grammatically together in order to form a piece of music according to the laws of beauty, it also treats of signs and characters used in writing music.

## CHAPTER III.

## MUSICAL TONES AND PITCH.

MUSICAL ART embraces the entire compass of all perceptible tones, and the realm of these tones is unlimited in number and variety. In musical composition we can only make use of such tones as our ear is capable of distinguishing as being high or low. The human ear can only recognize those vibrations as sound which are neither too slow nor too quick. That is to say, beyond a given height or depth the ear cannot comprehend distances. It requires about thirty-two vibrations a second to make a musical tone, and this is the lowest tone which can be brought into use. The highest tone is *nine octaves* above this, and consists of several thousand vibrations in a second. The pitch of tones is the distance between any one tone and another, whether high or low. The easiest way of furnishing a clear illustration is by the keys of a pianoforte. It will be perceived that the keys are divided by white and black, the object of which will be explained hereafter.

## CHAPTER IV.

## NAMES OF TONES.

As a means of naming the different tones it is usual to employ seven letters of the alphabet, C. D. E. F. G. A. B. These seven letters taken together constitute what is called an octave, and, as before stated, there can

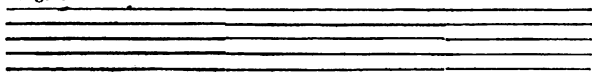
be only nine octaves recognizable in music. Now, from C. to C. again is an octave; or, from D. to D., E. to E., F. to F., is the same. The black keys, situated between the white ones, are secondary, and will be treated of in their proper place.

The distance between one white key and another, above or below, is called a tone, or step. It will be seen that every white key has a letter of its own, but the black keys have none; they borrow their names from the white keys, either above or below, as the case may be. We will designate all white keys as *natural*, or *independent*, in contradistinction to the black, which are *chromatic*. *Chromatic* means colored, and in this work has reference to the black keys. The Greeks used to write their chromatic signs with different colored ink (hence *color* to represent different keys, &c.)

To simply write the seven letters of the musical alphabet without any other symbol or sign to designate their location, position, or pitch would leave us entirely in the dark regarding distance or pitch, and as a means to obviate this difficulty a *linear system* or *staff* has been furnished upon which to place the notes, and thus the exact pitch of any note can be readily ascertained or determined. For this purpose five lines are written, thus:

Fig. 1.

## STAFF.





Every position between a line or space is called a degree. A note placed in a higher or lower position is said to be higher or lower in pitch; but to understand *exactly* where the true pitch is, it is necessary to have a fixed location or position for each letter, and usage has introduced other signs for this purpose called *clefs*.  This character or sign is called a G clef, and it is placed on the second line, thus:  With this line *fixed* as the clef line it is easy to ascertain where the other letters must be placed.

Fig. 2.

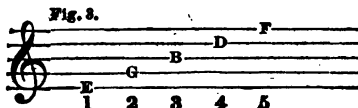
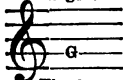


Fig. 3.

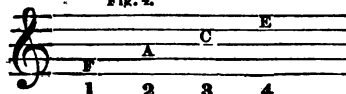
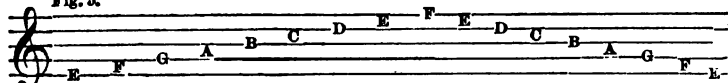


Fig. 4.

The first line is named E, second G, third B, fourth D, fifth F. The distance between the lines are called spaces, and are named F, A, C, E; or, taking all the lines and spaces together they form all the letters of the mu-

sical alphabet. In case tones are to be used which are higher or lower than

Fig. 5.

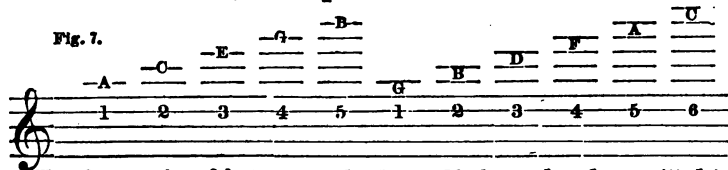


in the example given above, other lines and spaces are used called *added* lines or *added* spaces. They are written both above and below the regular staff, thus:—

Fig. 6.



Fig. 7.



The above series of letters *must be thoroughly learned and committed to memory*, otherwise it will be useless to proceed further. No one can learn to read vocal or instrumental music with facility without first thoroughly committing to memory all the rudimental signs, and especially the letters.


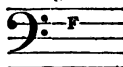
Having learned all the letters and tones of the G clef, which represents the *higher* tones of music, we now come to the Bass clef,  which represents the lower tones. thus:—

Fig. 8.



This clef is called the F. or bass clef, and is used for the lowest notes or tones, bass voices or instruments. The *fourth* line is the cleff line:—

Fig. 9.

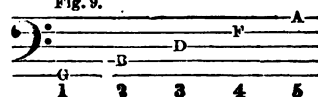
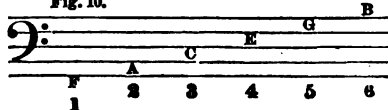
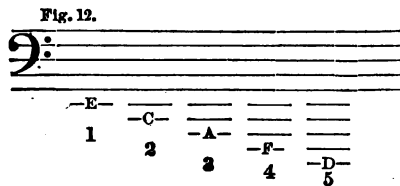
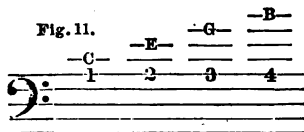






Fig. 10.

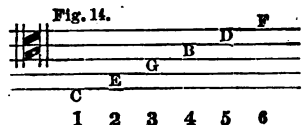
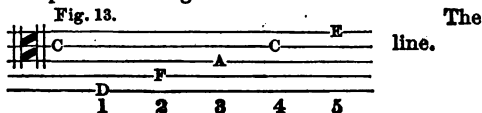


To more clearly indicate the clef line a dot is placed on each side of the *fourth line*. Added lines and spaces to any number can be placed above and below the bass staff, thus:—

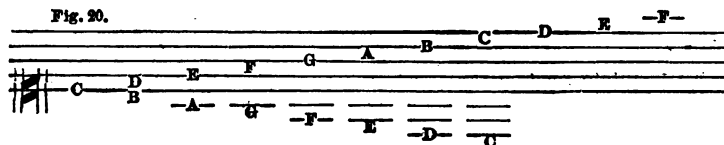
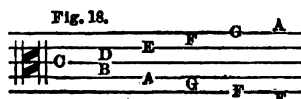
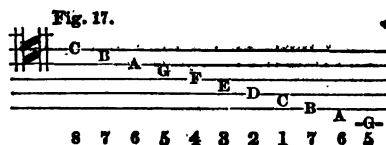
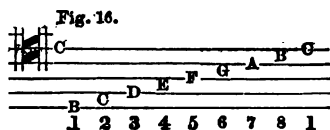


To facilitate reading music when it runs very high it is usual to place *8 va* --- above the notes, meaning an octave higher than written, instead of having too many added lines, as the lines confuse the eye. When music runs very low, we write *8 va* --- below the notes, which means an octave lower than written. Examples will be given further on.

There is another clef which is used quite frequently, it is called the Tenor, or C clef, and is made thus:  or, sometimes thus:  This clef is a very useful one, because it  is movable, and for  this reason is particularly well adapted in writing music for the various instruments of the orchestra. The fourth line is the clef



To understand thoroughly this clef we will place it in the various positions where it is most frequently found:—

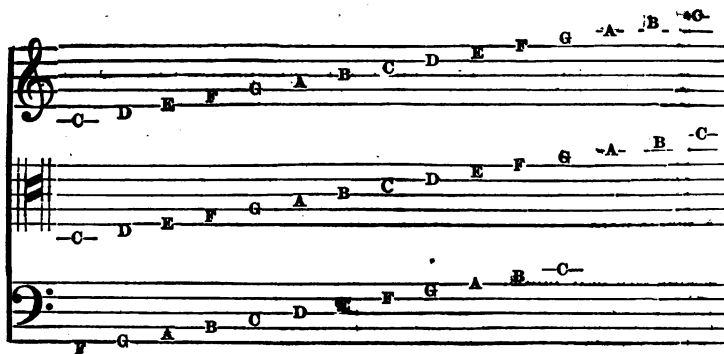


In example 16 the *first* line is the clef line. Ex. 18, with the clef on the third line. Ex. 19, with the clef on the *second*. Ex. 20, with the clef placed on the lowest line. From the foregoing examples it will be seen that the C clef is very useful, and students should study all the positions thoroughly.

If, as is frequently the case, a piece of music runs very high or very low, it may with propriety be changed, as in the following example:—



The two C's, one on the added line above with the bass clef, and the other on the added line below with the G clef, represent one and the same tone. This C is called middle C, because it is situated midway between the higher and lower parts of the musical scale. The three clefs showing the true position of all the letters on them when embraced together:—




## CHAPTER V.

## DURATION OF NOTES AND RESTS.

How long or short is to be the duration of a tone is shown in part by the characters called notes. There are *two* ways of showing the duration of tones, one, by the particular form called notes, and the other, by figures placed at the beginning of every piece of music. Here follows the present note form; it will be seen that we have discarded the *ancient* names of notes, because we like the modern plain English best:—


(1)  A whole note.


(2)  A half note.

(3)  A quarter note.


(4)  An eighth note.

(5)  A sixteenth note.


(6)  A thirty-second note.

(7)  A sixty-fourth note.

It will be seen there are *seven* different notes.

 The whole note is a round, open note.

 The half note is the same, with a stem.

 The quarter note is a black dot with stem.

 The eighth note is a black dot with stem and one hook.





The sixteenth note is a black dot with stem and two hooks.

The thirty-second is a black dot with stem and three hooks.

The sixty-fourth is a black dot with stem and four hooks.

A whole note



equals two half notes,



or four quarters,



or eight eighths,



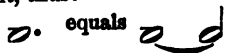
or sixteen sixteenths,



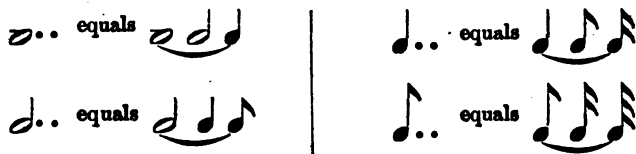
or thirty-two thirty-seconds.



A note may be increased (lengthened) one half by the use of a dot placed after it, thus:—



A second dot after the first adds one-half the value of the first dot:—



#### FORMS OF NOTES AND RESTS.

THE different forms of notes, or signs of tones, have different forms corresponding to them, called rests, pauses, or marks of silence.

A whole note rest, or mark of silence, is indicated thus: a bar placed *under* the fourth line.



A half note rest is placed *above* the third line, and is made thus:



A quarter note rest is made with a hook turning to the *right*, thus:



An eighth, the hook turns to the *left*, thus:



A sixteenth has two hooks turning to the left:



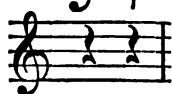
A thirty-second has three hooks:



A sixty-fourth has four hooks:



Another kind of quarter note rest now in frequent use is made like an inverted seven, thus:



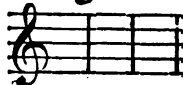
A rest can be prolonged by a dot in the same manner as notes, and the result is the same:



Or, a bar is placed thus in the music staff to show or indicate a measure, as music must be regularly divided into measures for the purpose of indicating time.



The distance between the bars is called a measure:



Double bars indicate the end of a phrase or of the piece:



## CHAPTER VI.

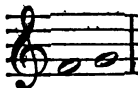
## DISTANCE OF TONES, INTERVALS, &amp;c.

THUS far we have acquired a knowledge of notes or tones, their names, and the manner in which they are written, that is, every tone has appeared by itself; we will now examine them in their natural relation to each other, when situated one above another. Two tones of like elevation is called a unison.

Two tones not exactly alike in point of pitch, but situated at the distance of a tone higher, or tone lower, is called an *interval*. The name of every interval,

higher or lower, depends on the distance *between* the tones. A note which stands one place higher on the staff, one line or one space higher, is one degree distant from it, thus:

called a *prime*, and the second interval between the two is called a *second*. For perfect uniform-



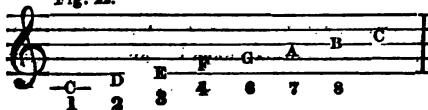
The *first* or *lowest* note is called a *degree*, *step*, or *sec-*  
ity we will hereafter use the

terms *whole tone* and *semitone* to represent distances between any two notes of a higher or lower degree.



(A.) Interval of a third, or two tones; (B.) interval of a fourth; (C.) interval of a fifth; (D.) interval of a sixth; (E.) interval of a seventh; (F.) interval of an eighth, or octave. We can go still further, by using *ninths*, *tenths*, *elevenths*, and *thirteenth*s, but beyond this it is unnecessary to go, and rarely beyond the *ninth* (G). After the *eighth*, or *octave*, has been completed, it is usual to call the *ninth* a *second*, and the *tenth* a *third*, and so on. As previously stated the musical alphabet is composed of *seven* letters, but to complete the octave the first letter has to be repeated, thus:

Fig. 22.



Intervals are always reckoned from below, *upwards*. It will be remembered in our treatment of intervals, thus far, we have only spoken of

the *white* keys of a piano, or the so called *natural* tones of a scale. The *black* keys of a piano represent no distinct letters or tones of their own, but an *accessory* to the white keys (principal tones), showing whether a tone is *large* or *small*, *whole tone* or *semitone*. By these *accessory* tones (black keys) we are enabled to measure the exact magnitude of every interval, *small* or *great*. We find by this arrangement that there are *two different species of seconds*, *large* and *small*, or *major* and *minor*.

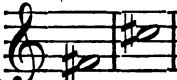
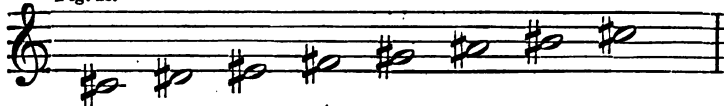
Before proceeding further with intervals we must first learn what are termed *chromatic signs*: they are a sharp  $\sharp$ , a flat  $\flat$ , and a natural  $\natural$ . The sharp is a sign of *elevation*, showing that the note is made a *semitone higher* when the sharp is placed *before* it, thus:  The sharp before the F raises the *pitch* a *semitone* higher, which is represented by the *black key* between F and G, and the sharp before the C raises the *pitch* a *semitone higher*, represented by *black key* between C and D. The seven notes (letters) of the scale can all be sharpened, raised, or elevated by this sign  $\sharp$ :—

Fig. 23.



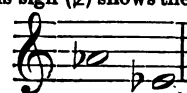
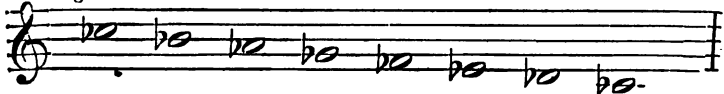
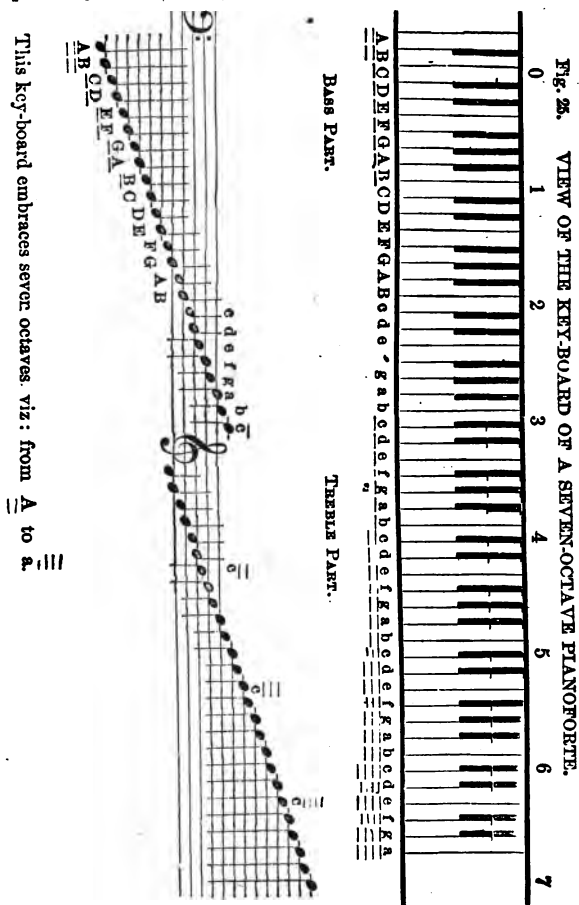
In like manner all the keys (letters) can be flatted. This sign ( $\flat$ ) shows the note is *lowered* or *depressed* a *semitone* when placed before it. The flat before A shows that the black key between A and G is to be used, and the flat before E, that the black key between E and D is used. 

Fig. 24.

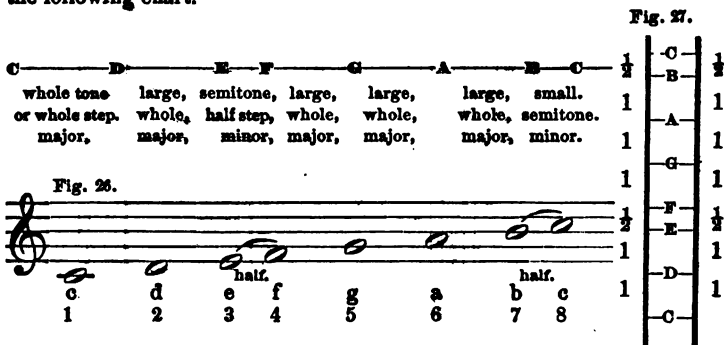


The natural is used to cancel the effect of a sharp or flat. A double sharp  $\sharp\sharp$ , a double flat  $\flat\flat$ ; cancelling sign for a double sharp  $\sharp\sharp$ , and cancelling sign for a double flat  $\flat\flat$ . The same black key may represent at one time a sharp, and at another, a flat.

It will be seen or remembered that the key board of a piano is divided into groups of *eight white* and *five black* keys, thus:—



This key-board embraces seven octaves, viz: from A to a. Between B and C, and E and F, there is no intermediate or black key, and therefore the difference between these letters is only a *semitone*, according to the following chart.



The lines under the A means the large A twice marked; and the lines over the small a means the *small* a is four times marked. These lines (marks) will enable us to *definitely* fix any letter found in the musical alphabet. By referring to the key-board the exact location of the different octaves (each octave) will readily be found.

## CHAPTER VII.

### THE SCALE.

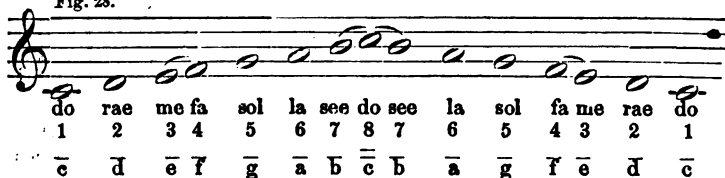
THE seven tones (letters), c, d, e, f, g, a, b, c, form what is called a scale, and are reckoned from the lowest (tonic) upwards, by counting the lowest tone as one, second two, third three, and so on to the end of the octave. Each individual tone has a distinct name of its own. Thus: the first tone

is called the *tonic*; the next above, second, or *super tonic*; third degree, the *mediant*; fourth degree, the *sub-dominant*; fifth degree, *dominant*; sixth degree, the *sub-mediante*; seventh degree, *sub-semitone* or *leading note*; eighth degree, the *octave*. All tones which do not belong to this key (scale) are said to be *foreign* to the scale, and therefore we call these the *natural* or *appropriate* tones of the scale; tones belonging to this scale.

There are two keys (scales) connected with each letter: *major* and *minor*. Every major scale contains *five whole tones* and *two semitones*, according to the following form :—

c	whole,	d	whole,	e	half,	f	whole,	g	whole,	a	whole,	b	half,	c
	major,		major,		minor,		major,		major,		major,		minor.	
					semitone.									

Fig. 23.



The degree from one to two is a *step*; from two to three, a *step*; from three to four, a *half step*; from four to five, a *step*; from five to six, a *step*; from six to seven, a *step*; from seven to eight, a *half step*. It will be seen that there are *five whole steps* (tones) and *two half steps* (semitones) in the completion of this scale. The half steps occur between e and f, b and c, all the others being whole steps. This is called the *major diatonic scale of C*, all other major scales must be constructed after the plan of this scale, and for this reason is often called the *model* scale, because the others are modelled after it, but only in respect to the intervals are the scales alike.

It will be seen that we have given peculiar (fixed) names to those letters which make up the major key (scale) of C, and so long as they remain unchanged by tones *foreign* to this scale, so long it must continue in this key or scale. The letters c, d, e, f, g, a, b, constitute what is termed a *natural* series of tones (white keys), and is therefore called a *natural scale*. If we introduce any tone which is *foreign* to this peculiar key, the scale or key is said to be *transposed*, because the introduction of this *foreign* tone *displaces* the natural series of degrees (tones) already established. Other



*major scales* can be constructed with our system of notation, but they are *copies* of the C scale placed on other degrees of the staff. As this system is particularly adjusted to the major scale of C, we cannot make any change without introducing some additional element not as yet brought into practical use. If music were all written in one key, there would soon cease to be any charm in it; and for this reason, to give a greater variety, characters called *chromatic signs* (sharps, flats, and naturals) have been introduced (employed).

## CHAPTER VIII.

## TRANSPPOSED SCALES.

WE will take G as the *first* or *tonic* of a new key, but on an examination of the tone series we find they do not correspond with our model scale C:—

g	a	b	c	d	e	f	g
major,	major,	minor,	major,	major,	minor,	major.	

It will be seen that the interval between E and F is *minor* (semitone), and that according to our model scale C, the interval should be *major*, and that the interval between F and G is *major* when it should be *minor* (a semitone). This difficulty can be easily overcome (obviated) by introducing a sharp before the F; for, as the sharp *elevates* or *raises* the *pitch* a *half step* or *semitone*, the F is sung or played on the black key at the right of it, making it a *semitone* higher in *pitch*, and therefore adjusts the intervals so they correspond to those in the scale of C:—

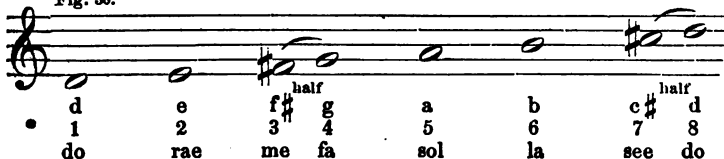
Fig. 29.

g	a	b	c	d	e	f <sup>#</sup>	g
1	2	3	4	5	6	7	8
do	rae	me	fa	sol	la	see	do

This scale is an exact copy of the C scale in respect to intervals, but it differs in *position* (*pitch*), being a *fifth higher* than C. The changing of

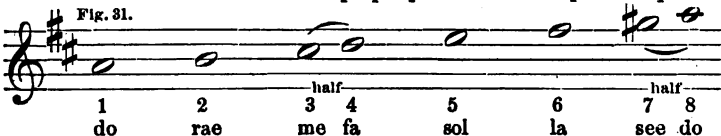
the scale from C to G is called *transposition*. We will give examples of all the transpositions by sharps, or transposition by *fifths*. G is a fifth higher in pitch than C. A fifth from G would be D, and D will be the next transposition:—

**Fig. 30.**



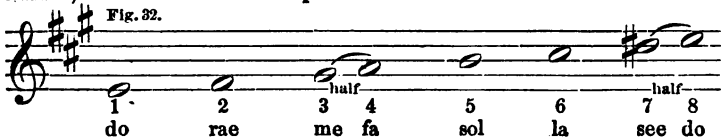
*Note.* When a letter has been once sharpened like F, in transposing the scale, it is usual and more convenient to place the sharp on the *fifth line*, at the *beginning* instead of before the note, in the course of the music. Hereafter we will follow this rule. A is a *fifth higher* than D, and in order to have the intervals come in their proper places three sharps are required:

**Fig. 31.**



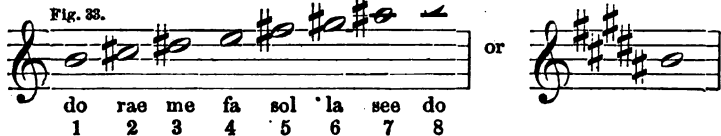
These sharps are placed on f, c, and g. In the above, the first two sharps are placed on the fifth line and third space of the cleff. E is a fifth higher than A, and is the fourth transposition from C:—

**Fig. 32.**



B is a *fifth* higher than E, and requires *five* sharps, namely: f $\sharp$ , c $\sharp$ , g $\sharp$ , d $\sharp$ , and a $\sharp$ .

**Fig. 33.**



F sharp is a fifth higher than B. It will be remembered that the interval between E and F is only a *semitone*, and consequently E sharp becomes the same as F natural, or, the white key of F represents E sharp in its elevated position, thus:—

Fig. 34. half. or

f# g# a# b c# d# e# f#  
 1 2 3 4 5 6 7 8  
 do rae me fa sol la see do

C sharp is a fifth higher than F sharp, and requires all the letters to be sharpened:—

Fig. 35. half. half. or

c# d# e f# g# a# b# c#  
 1 2 3 4 5 6 7 8  
 do rae me fa sol la see do

The scale can be further transposed by sharps, but as there is an easier way, *less chromatic*, we will carry it no further.

The rule for finding the key note by sharps, is the next letter *above* the last letter sharpened, or a fifth higher than the last key note.

We will now proceed to transpose the scale by *fourths*. The reason for this will be obvious enough as we progress with our subject. The fourth from C is F:—

Fig. 36. half. half.

f g a b $\flat$  c d e f  
 1 2 3 4 5 6 7 8  
 do rae me fa sol la see do

The reason for placing the flat before B is to make the interval from three to four a *half step* (*semitone*), without this flat the interval would be a *whole step*. It will be remembered that a flat placed before a note *lowers* or *depresses* it a *semitone* (*half step*), that B is no longer represented by the *white key*, but by the *black key* immediately at the left of it. In like man-

ner we transpose all the keys by fourths, &c. From F to B flat is a fourth:

Fig. 37. half. half.

$\flat\flat$	c	d	e $\flat$	f	g	a	b $\flat$
1	2	3	4	5	6	7	8
do	rae	me	fa	sol	la	see	do

A flat once introduced continues in force through all the subsequent keys. From B flat to E flat is a fourth. E is the third letter flatted:—

Fig. 38. half. half.

e $\flat$	f	g	a $\flat$	b $\flat$	c	d	e $\flat$
1	2	3	4	5	6	7	8
do	rae	me	fa	sol	la	see	do

Fourth transposition by flats. A flat:—

Fig. 39. half. half.

a $\flat$	b $\flat$	c	d $\flat$	e $\flat$	f	g	a $\flat$
1	2	3	4	5	6	7	8
do	rae	me	fa	sol	la	see	do

Fifth transposition by flats. D flat:—

Fig. 40. half. half.

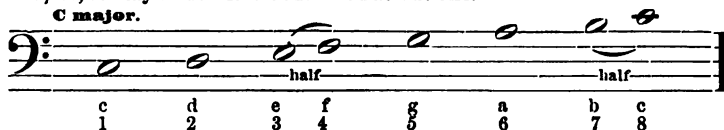
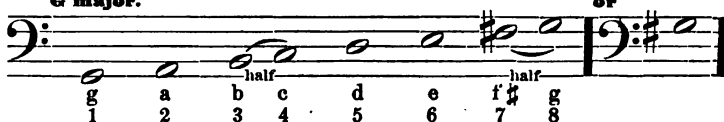
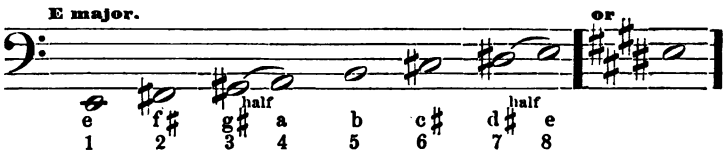
d $\flat$	e $\flat$	f	g $\flat$	a $\flat$	b $\flat$	c	d $\flat$
1	2	3	4	5	6	7	8
do	rae	me	fa	sol	la	si	do

Sixth transposition by flats. G flat:—

Fig. 41. half. half.

Scale in G flat.

If there are any more transpositions to take place it is better to return to some of the sharp keys, as it is less work and facilitates reading. In finding the key note in transpositions by flats, look a fourth below the *last* flat; or, it may be found on the last flat but one.

**C major.****G major.****D major.****A major.****E major.****B major.**

**F sharp major.**

f# 1 g# 2 a# 3 b 4 c# 5 d# 6 e# 7 f# 8

**C sharp major.**

c# 1 d# 2 e# 3 f# 4 g# 5 a# 6 b# 7 c# 8

**F major.**

f 1 g 2 a 3 b 4 c 5 d 6 e 7 f 8

**B flat major.**

b 1 c 2 d 3 e 4 f 5 g 6 a 7 b 8

**E flat major.**

e 1 f 2 g 3 a 4 b 5 c 6 d 7 e 8

**A flat major.**

a 1 b 2 c 3 d 4 e 5 f 6 g 7 a 8

**D flat major.**

half half

d $\flat$  e $\flat$  f g $\flat$  a $\flat$  b $\flat$  c d $\flat$

1 2 3 4 5 6 7 8

**G flat major.**

half half

g $\flat$  a $\flat$  b $\flat$  c d e $\flat$  f g $\flat$

1 2 3 4 5 6 7 8

## CHAPTER X.

## MINOR SCALES.

If we examine the major scales it will be ascertained there are *twelve* in all. Now there is another scale closely connected with every major scale, but having an entirely different order of intervals; it possesses the same signature, but begins with a different letter. This scale is called *minor*.

The minor scale belonging to the C major scale is placed on A, or a minor third below the C. It is known or indicated by having a sharp placed before the G. The following is the order of the letters, a, b, c, d, e, f,  $\sharp$ g, a; or,

**Fig. 42.**

half half aug half

a b c d e f  $\sharp$ g a

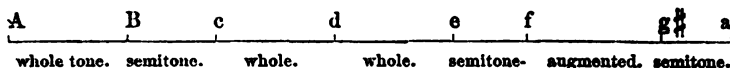
1 2 3 4 5 6 7 8

la see do rae me fa see la

An examination of the intervals will disclose three whole tones, three half tones, and what we shall term an *augmented tone*. An augmented tone consists of a whole tone and a semitone, and is represented by the interval between f and g sharp. The following is the order of intervals: from one to two, is a whole tone; two to three, a semitone; three to four, a whole tone; four to five, a whole tone; five to six, a semitone; six to

seven, an augmented tone; and seven to eight, a semitone. Like the major scale of C this a minor is the *model* for all the other minor scales.

Perhaps the following diagram will make this minor scale more intelligible:—



We will now give the transposition of the twelve minor scales:—

Fig. 43.

e	f <sup>#</sup>	g	a	b	c	d <sup>#</sup>	e
1	2 <sup>#</sup>	3	4	5	6	7 <sup>#</sup>	8
la	see	do	rae	me	fa	see	la

The interval from e to f sharp, whole tone; f sharp to g, semitone; g to a, whole tone; a to b, whole tone; b to c, semitone; c to d sharp, augmented tone; d sharp to e, semitone.

Second transposition of the minor scale by sharps, B:—

Fig. 44.

b	c <sup>#</sup>	d	e	f <sup>#</sup>	g	a <sup>#</sup>	b
1	2 <sup>#</sup>	3	4	5	6	7	8
la	see	do	rae	me	fa	see	la

Third transposition, F sharp:—

Fig. 45.

f <sup>#</sup>	g <sup>#</sup>	a	b	c <sup>#</sup>	d	e <sup>#</sup>	f <sup>#</sup>
1 <sup>#</sup>	2 <sup>#</sup>	3	4	5 <sup>#</sup>	6	7 <sup>#</sup>	8



## Fourth transposition, C sharp.

Fig. 46.

half. half. half.

c# 1 d# 2 e 3 f# 4 g# 5 a 6 b# 7 c# 8

## Fifth transposition, G sharp.

Fig. 47.

half. half. half.

g# 1 a# 2 b 3 c# 4 d# 5 e 6 f# 7 g# 8

## Sixth transposition, D sharp.

Fig. 48.

half. half. half.

d# 1 e# 2 f# 3 g# 4 a# 5 b 6 c# 7 d# 8

## MINOR SCALES ON BASS CLEF BY SHARPS.

This scale consists of three major seconds, three minor seconds, and an augmented second.

A minor.

half. half. aug.\* half.

a 1 b 2 c 3 d 4 e 5 f 6 g# 7 a 8

la se do rae me fa see la

\* From f to g sharp is an augmented second.

E minor.

half. half. aug. half. key-note.

e 1 f# 2 g 3 a 4 b 5 c 6 d# 7 e 8

## B minor.

b 1      c# 2      d 3      e 4      f# 5      g 6      a# 7      b 8

## F sharp minor.

f# 1      g# 2      a 3      b 4      c# 5      d 6      e# 7      f# 8

## C sharp minor.

c# 1      d# 2      e 3      f# 4      g# 5      a 6      b# 7      c# 8

## G sharp minor.

g# 1      a# 2      b 3      c# 4      d# 5      e 6      f# 7      g# 8

F# is twice sharpened, or double sharpened.

## D sharp minor.

d# 1      e# 2      f# 3      g# 4      a# 5      b 6      c# 7      d# 8

That the minor scales may be thoroughly understood, we present some examples in the Melodic form.

## A minor.

a b c d e f# g# a  
1 2 3 4 5 6 7 8  
la see do rae me fee see la

## A minor.

a b c d e f# g# a  
1 2 3 4 5 6 7 8  
la se do rae me fee see la

## E minor.

e f# g a b c# d# e  
1 2 3 4 5 6 7 8

e f# g a b c# d# e  
1 2 3 4 5 6 7 8

## D minor.

d e f g a bb c# d  
1 2 3 4 5 6 7 8

d e f g a bb c# d  
1 2 3 4 5 6 7 8

The scale illustrated on page 28 (melodic form) consists of five major seconds and two minor seconds, the minor seconds occurring between two and three, and seven and eight.

This scale is changed in the descending form, inasmuch as the seventh and sixth are flattened, or made natural.

A minor.

a	g	f	e	d	c	b	a
8	7	6	5	4	3	2	1
la	see	fa	me	rae	do	see	la

We shall not transpose this form of the minor scale any further, but the intelligent teacher will assist his pupils in doing so, should it be thought advisable. We will now take up the Harmonic form of the minor scale by flats. This scale is sung and played the same in ascending and descending.

D minor.

d	e	f	g	a	b	c	d
1	2	3	4	5	6	7	8

G minor.

g	a	b	c	d	e	f	g
1	2	3	4	5	6	7	8

C minor.

c	d	e	f	g	a	b	c
1	2	3	4	5	6	7	8

From c to d, whole tone; d to e, semitone; e to f, whole; f to g, whole; g to a, semitone; a to b, augmented; b to c, semitone.

## F minor.

half half half half half half

f 1 g 2 a 3 b 4 c 5 d 6 e 7 f 8

B $\flat$  minor.

half half half half augmented half

b 1 c 2 d 3 e 4 f 5 g 6 a 7 b 8

E $\flat$  minor.

half half half half half half

e 1 f 2 g 3 a 4 b 5 c 6 d 7 e 8

## MINOR SCALES ON BASS CLEF BY FLATS.

## D minor.

half half half half augmented half

d 1 e 2 f 3 g 4 a 5 b 6 c 7 d 8

From b flat to c sharp is an augmented second.

## G minor.

half half half half augmented half

g 1 a 2 b 3 c 4 d 5 e 6 f 7 g 8

## C minor.

c 1      half      d 2      e♭ 3      f 4      half      aug      g 5      a♭ 6      half      b 7      c 8

## F minor.

f 1      half      g 2      a♭ 3      b♭ 4      half      aug.      c 5      d♭ 6      half      e♭ 7      f 8

## B flat minor.

b♭ 1      half      c 2      d♭ 3      e♭ 4      half      aug      f 5      g♭ 6      half      a 7      b♭ 8

## E flat minor.

e♭ 1      half      f 2      g♭ 3      a♭ 4      half      aug.      b♭ 5      c♭ 6      half      d 7      e♭ 8

One more scale, the Chromatic Scale, (colored) completes the series of scales. This scale is constructed by a series of semitones, thus :

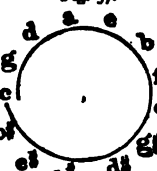
c c# d d# e f f# g g# a a# b c

In the descending Chromatic Scale, flats are used.

c b b♭ a a♭ g g♭ f e e♭ d d♭ c

A musical circle representing all the major *diatonic* keys: —

Fig. 57.



B sharp is the same as C. This same circle can represent the transpositions by flats as well as by sharps, and also the minor transpositions.

As we stated in a previous chapter the *excessive* transposed keys can be avoided by the use of others in simpler form. For instance, seven sharps can be written with five flats, the individual tones being represented by exactly the same keys. Six flats and six sharps also represent the same series of individual tones. We will now give a table showing the near relationship of some of the keys to one another: —

C	d	e	f	g	a	b	c				
			F	g	a	b flat	c	d	e	f	
C	d	e	f	g	a	b	c				
			G	a	b	c	d	e	f sharp	g	

Between C sharp and C there is no characteristic connection, they being diametrically opposed to each other.

C	d	e	f	g	a	b	c				
C sharp	d sharp	e sharp	f sharp	g sharp	a sharp	b sharp	c sharp				

An examination will show there is an entire different order of tones. There is also a close relationship between some of the major and minor keys as the following table will show: —

			C	d	e	f	g	a	b	c	
	a	b	c	d	e	f	g sharp	a			
C	d	e	f	g	a	b	c				
c	d	e flat	f	g	a flat	b flat	c				
			C	d	e	f	g	a	b	c	
				e	f sharp	g	a	b	c	d sharp	e

If we wish to write a piece of music in a transposed key, we are accustomed to write the requisite number of transposition signs at the beginning, to save trouble in prefixing a sharp or flat to each individual note which is to be effected by such a sign as it occurs along the piece. One or more such signs thus placed at the beginning is called a *signature*. Here follow the different signatures: —

The image displays musical notation for the transposition of scales across twelve keys, arranged in four rows. The first two rows use treble clefs, and the last two rows use bass clefs. Each row contains eight staves, each representing a different key signature. Above each staff is a key signature label: C, G, D, A, E, B, and F# in the first row; C#, F, Bb, Eb, Ab, Db, Gb, and Cb in the second row; and the same sequence of labels in the third and fourth rows. The notation shows the scale for each key, with sharps and flats indicating the key signature. The scales are written in a way that demonstrates the transposition of a single scale across different keys.

Bass signatures.

We have treated this subject — transposition of scales — thus elaborately because it is one of the great stumbling-blocks of nearly all our students in music; without a full understanding of this part of our subject we might as well stop study and close our book in despair.

We advise all students to make it a point to write out all the scales in full, for by so doing they will arrive at a proper estimate of their understanding of the subject.

## CHAPTER XL

### DESIGNATION OF TIME.

THE different note signs indicate the duration which a time or rest possesses in a *relative* point of view, but not in a positive or *absolute* sense; they merely tell how many times longer or shorter one tone is than another, but not how long a tone is in itself — this is indicated by other signs which we will now proceed to explain. The term *tempo* relates to the *rhythmical movement*, and was formerly adjusted by technical terms: *allegro*, *andante*, *adagio*, and many others, but these terms are very uncertain and *variable*, causing the necessity of a more sure scale for measurement



of time. A machine called *Maelzels Metronome* has been invented, which indicates the time exactly, whether slow or fast. By means of an adjustable slide on a pendulum, the time can be regulated faster or slower as the *tempo* may require. As a substitute for the *Metronome* a thread pendulum can be used, which any one can make by attaching a common lead for the weight. If a piece of music is marked 50 quarters, the pendulum must be 56 inches long. If 60 quarters is indicated the pendulum must be 39 inches. If 72 quarters is indicated, 27 inches, if 80 quarters, 22 inches,

84 quar.,	19 3-4 inches,	108 quar.,	12 inches,	152 quar.,	6 inches
88 " 18 "	" "	112 " 11 1-4 "	" "	160 " 5 1-2 "	" "
92 " 16 1-2 "	" "	120 " 9 1-2 "	" "	168 " 4 3-4 "	" "
96 " 15 1-4 "	" "	132 " 8 "	" "	176 " 4 1-2 "	" "
100 " 14 "	" "	138 " 7 1-3 "	" "	184 " 4 "	" "
104 " 13 "	" "	144 " 6 1-2 "	" "	192 " 3 3-4 "	" "

Pendulums of equal length vibrate in equal time, even if their weights are unlike. A pendulum to vibrate *twice as slow* as another must be *four times as long*. Although this scale or table is not exactly perfect, it is sufficiently so for all practical purposes.

## CHAPTER XII.

### DIVISION OF MEASURES.

Rythm consists in a symmetrical combination of different groups of time, which may be larger or shorter. There are two different species: one consists of time which are *equal* or *even* among themselves, and the other of *unequal* numbers. These groupes are divided into what is termed measures, and are bounded by bars. Bars are of two kinds: single and double, the single is used for dividing the measures, while the other is used at the *end* of a passage or the end of the music. A measure contains *two* or *three parts*: if *two parts*, it is called even measure; if *three parts*, uneven measure. The parts of measure can be represented by either long or short notes, at the pleasure of the composer. To show what species of notes are to be used, a sign, called the *rythmical signature*, is placed at the beginning of the music, and is written in the following manner:—

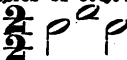
2	2	3	3	3	4	4	4	6	6	6	9	12
2	4	2	4	8	2	4	8	2	4	8	8	8


and so on to the end. The signature is to show, in the *first place*, whether the measure is divided into *two, three, or more parts*; and *secondly*, what kind of notes are required. The *upper figure* shows the number of parts the measure is divided into, and the *lower figure* the kind or denomination


of notes required to fill the measure. Thus:  $\frac{2}{2}$ , *two, two*, the upper figure shows that the measure is divided into *two parts*, and that *two half notes*

fill the measure;  $\frac{3}{2}$  shows the measure is divided into *three parts*, and that it requires *three half notes* to fill the measure;  $\frac{4}{2}$  requires *three quarter*

*notes* to fill a measure;  $\frac{8}{3}$ , *three eighth notes* fill a measure;  $\frac{4}{4}$ , *four quarter notes* fill a measure;  $\frac{6}{8}$ , *six eighth notes* are required to fill a measure.




The simplest species of *even* measure is called *two half* measure, and is represented thus:  $\frac{2}{2}$   The *whole* note represents a full measure, as do also the two halves. We also have another species of *two part*

measure, thus:  $\frac{2}{4}$   This is called *two quarter measure*. We

also have one more form of this measure, called *two eighth*, thus:  though it is seldom found.

## CHAPTER XIII.

### DIFFERENT SPECIES OF UNEVEN MEASURE.

UNEVEN measure consists of *three parts*:  $\frac{3}{2}$   *Three half*  
measure, or, *three half notes* fill the measure.  $\frac{3}{4}$   *three*  
*quarter notes* fill the measure.  *Three eighth notes* fill a  
a measure.

## SUBDIVISION OF THE PARTS OF MEASURE

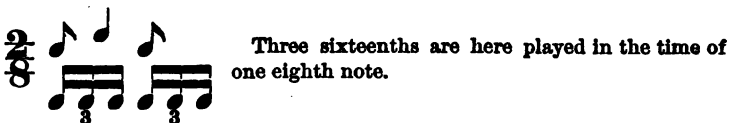
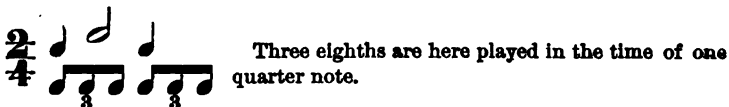
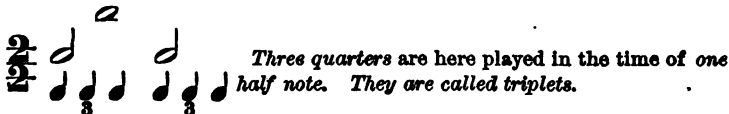
Even subdivisions of even measure:—



Even subdivision of uneven measure:—



Uneven subdivision is found written in the following form:—

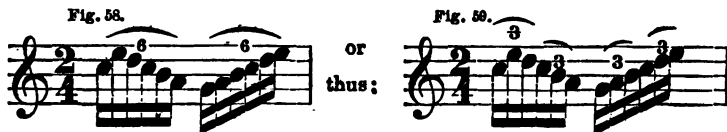


Uneven subdivision of uneven measure, thus:—



We might go on with numerous other divisions, but it is better for the

student to seek them out for himself. In rendering a piece of music, it becomes often uncertain how a certain number of notes shall be grouped together, and, for a better understanding of them, it is usual to designate by the use of figures, thus:—

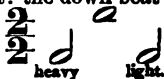


It will be observed that the *first* group is accented by *sixes*, while in the *second* figure they are accented by *threes*. In 2 measure the delivery is somewhat more *heavy* than in 4, though the degree of *quickness* is the *same*; for this reason composers employ the *longer* notes to represent *heavy*, and the *shorter* ones to represent the *light* or *weaker* character of music.

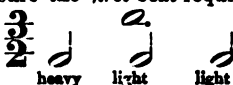
## CHAPTER XIV.

### MUSICAL ACCENT.

Symmetry and exact length of time constitute a peculiar charm of music; but there is another property requisite, which enhances the effect and gives more definite meaning to a whole performance. Musical accent is the giving of one part of a measure more *stress* or *force* than another. This accent comes from an instinctive impulse within us to sing or play some parts of a measure with greater force than another. In our method of writing music, it is divided into *measures* by bars, and it is usual to accent the *first* note after every bar, or, we begin the *first* part of every measure with a heavy accent. In two part time the *first* is the accented, and the *second* the unaccented. We say down beat, up beat: the down beat is the accented, and the up beat the unaccented, thus:—



In *three part* measure the *first* beat requires the accent, and the two fol-

lowing are light:  $\frac{3}{2}$  

It must be borne in mind that by accent we do not mean a force sufficient to *stun* or *shock* us, but only a *slightly* increased force, to distinguish it from the others; like soldiers marching, the left foot is the accented or heaviest.

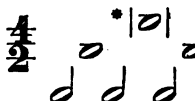
### HIGHER RHYTHM.

Thus far we have only had groups of two and three parts in a measure, but there is a still higher symmetry than this. As parts of time taken together form small groups, so also can several groups taken together form a larger group, or a rhythm of a higher order. We mean by this, several measures forming a sentence or musical phrase, like so many words in language forming a grammatical sentence; like this melody from Mozart:—

Fig. 60. MINUET.



Even compounds of even measure, consists in doubling the simple form of

*two, two* measure:—  $\frac{4}{2}$    $\frac{4}{4}$  

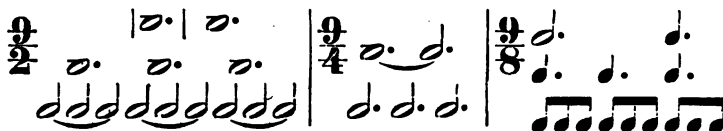
This time is often designated by this sign: C



\* Double whole note.



Three fold measures brought into one produce nine fold measure:—



With one more example we will close the subject of compound measure:



So far as quickness or slowness of movement is concerned it does not matter whether a piece is written in simple or compound measure, but custom has established a different kind of delivery of compound measure from that usually given to simple, and, therefore, composers sometimes use the one and sometimes the other, as their ideas or taste may dictate.

There is another species of measure sometimes used, composed of an uneven number of parts, like  $8^5$  or  $8^7$ , but it is only used for its quaintness by composers who wish to produce some peculiar musical effect, or to show their eccentricity; we opine the latter.

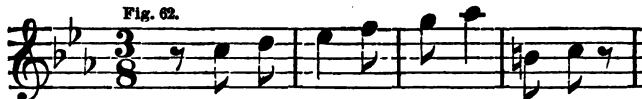
## CHAPTER XV.

As we have already stated, music is divided into figures called *phrases*, or *sets*, and consists of *two*, *three*, or more measures; but this rythmical arrangement does not imply that the notes must all be of equal length, like sixteenths, eighths, and quarters, for they may consist of a variety of *unequal* notes, only the notes must correspond to the time stated in the signature. It often happens that a phrase begins in the middle of a measure, or even on the last part of it, for sometimes it begins with a heavy accent, and at others with *unaccented* or light part of the measure. Musical passages are usually composed of rythmically round numbers or parts, and are, or should be, reducible to the primary numbers 2 and 3, but these parts are often extended so as to produce greater variety and to prevent monotony in phrasing. It frequently happens that the *heavy* part of the measure occurs on the *last*, or unaccented part, and this is called *inversion*, or changing position:—

Fig. 61.



Fig. 62.



Inversions of this kind can only take place in uneven divisions of time, though examples of this kind are of frequent occurrence.



Music written in this way is called *syncopation*.

Syncopation, then, is where a measure begins with an unaccented note, followed by an accented one; or, it is where a long note occurs between two shorter ones. There are many ways of expressing these *syncopes* or *interruptions*, but we need not dwell on them, and will only give a few examples:—

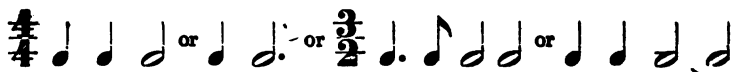
Fig. 63.



Fig. 64.



Syncopé produces a shock or revulsion of our feelings, because the *stress* of voice falls on the *light* portion of the measure instead of the heavy, which accords with our feelings best. *Syncopé* differs from the rythmical inversion mentioned, inasmuch as the syncopated note begins on an unaccented note, and holds over to the accented one, whereas the inverted accent does not continue so. Rythmical inversion:—



Syncopated notes occur in the following:—



As we have already recommended, we advise the student to seek out other forms of inversion and syncopation, to such an end; the orchestral scores of overtures and symphonies will furnish a great variety.

#### INTERRUPTION OF RYTHMICAL UNIFORMITY.

There are some pieces which have no time at all, and there are others with a well defined rythm, which, in order to give it the proper expression, it becomes desirable in particular places to disturb the regular course of rythm. This interruption is termed *accelerated*, or *retarded* (faster or slower), *piu accelerando*, a little faster, *piu adagio*, a little slower. There are many other terms in use, like *ad libitum*, but the one most frequently used by modern composers, particularly Chopin, is *tempo rubato*, meaning literally, at the will or caprice of the performer.



The *recitative*, used so much in oratorio and opera, is a form of vocal declension, having no marked time; it is true there are long and short notes, to represent certain words intended to be longer or shorter than others, but it is left to the will or choice of the singer to accelerate or retard, as his feelings may dictate, a liberty which is almost uniformly misused and abused. There are other terms employed in music which indicate a change in the style of rendering other than that indicated by the written notes. We shall treat of some of the most common under the head of expression and style.

## CHAPTER XVI.

THE movement of a piece of music is generally indicated by the rhythmical sign, placed at the beginning, with the addition or prefix of certain *Italian* words, indicating *how fast* or *slow* the movement is to be played. We give a few of these terms, though they come more properly in the musical dictionary which will appear at the end of this work:—

<i>Grave</i> , very slow,	<i>Affectuoso</i> , gently,
<i>Adagio</i> , a degree faster,	<i>Agitato</i> , with emotion,
<i>Largo</i> , slow, and in a large style,	<i>Amoroso</i> , tenderly,
<i>Larghetto</i> , a degree faster than <i>largo</i> ,	<i>Cantabile</i> , in a singing style,
<i>Andantino</i> , somewhat slow and flowing,	<i>Con brio</i> , with spirit,
<i>Andante</i> , a degree faster than <i>andantino</i> ,	<i>Con fuoco</i> , with fire,
	<i>Brillante</i> , brilliantly,
<i>Moderato</i> , moderate time,	<i>Pastorale</i> , in a simple, unaffected manner,
<i>Allegretto</i> , lively and tripping,	
<i>Allegro</i> , fast,	<i>Sostenuto</i> , sustained,
<i>Vivace</i> , quick,	<i>Scherzando</i> , playfully,
<i>Presto</i> , very quick,	<i>Vigorous</i> , with vigor.
<i>Prestissimo</i> , as quick as possible,	

## GRACES AND EMBELLISHMENTS.

The principal embellishments used in music are the *trill*, *turn*, *fore* and *afternotes*, and the *appoggiatura*. *Long fore notes* are written thus, and borrow *half* of the time of the *principal* note.

Fig. 65.

Written.

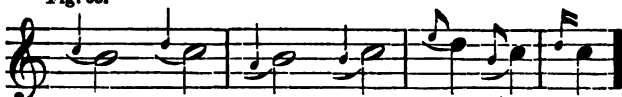


Fig. 66.

Played.



Long after notes are not of very frequent occurrence; they borrow their time from the principal note like the fore note, thus:—

Fig. 67.

Written.

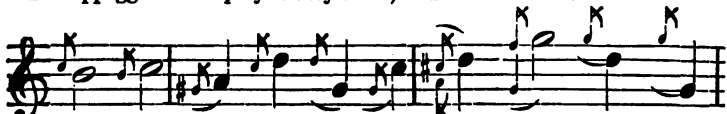


Fig. 68.

Played.



The appoggiatura is played very short, and is made thus:—



The turn consists of three or four notes, and is performed in a variety of ways:—

Fig. 69.

Written.

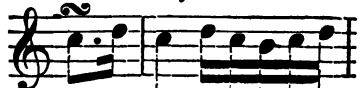
Played.



Fig. 70.

Written.

Played.



It is sometimes made from below, thus:—

Fig. 71.



Played.



Played.



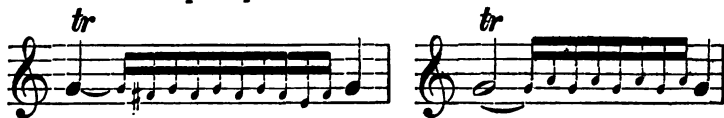
The trill can be made with or without a finishing note or turn, but it sounds much better with the turn.

When a sharp is placed above the sign it shows the next degree *above* the principal note is to be sharped; when placed below the sign, that the degree *below* the principal note is to be sharped. A flat placed above the turn indicates that the next degree *above* the principal note is to be flatted, and when below the sign that the degree *below* is to be flatted. A *trill* is the quick alternation of two notes on different degrees, but generally at the distance of a *semitone* or *whole tone* from the principal; it can be made a degree *above* or a degree *below* the principal note

From above the principal note: —



From below the principal note: —



Without the turn.

There are so many ways of making this embellishment, and authors differ so much in regard to it, that we deem it inexpedient to lay down any set rules. It is known by this sign: *tr* ~~~

Expression of music means the *coloring* of it: *loud, soft, fast, slow*, and attention to the *accents, phrasing*, and other marks used in writing music. Signs of *emphases*: —



These signs can only be fully explained by practical examples, such as the student will find in almost every well written piece, and which the competent teacher should be particular to explain to his pupils in a clear, intelligent manner. *Legato* means in a *smooth, connected, or sustained* manner; it is known by the term *legato*, or these marks, called *slurs* or *binds*:





*Staccato* means in a short, detached style, it is known by the following signs: ' ' ' ' . . . .



The pointed dot means very short, one-fourth the length of the note; the round dot, short or one-half the length of the note:—




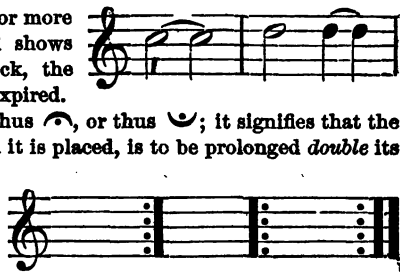
*Arpeggio*, or *broken chords* (harp style), is known by the following example. It must be played rapidly from the lowest note upward:—



A *tie* is used to connect two or more notes on the same degree, and shows that only the *first* note is struck, the others are held till the time has expired.

A *hold* or *pause* is indicated thus , or thus ; it signifies that the note or rest, over or under which it is placed, is to be prolonged *double* its given length.

*Dots* placed before or after a double bar indicate the music is to be repeated. The words *dal segno*, *D.C.*, or this sign , in-



dicates a repeat from it to the double bar. Notes are often abbreviated to avoid labor and space:—

The image shows three musical staves, each with a treble clef and a key signature of one sharp (F#). Each staff is divided into two parts: 'Written.' and 'Played.' separated by a double bar line.   
 - The first staff: 'Written.' shows a single note (F#) with a long horizontal line above it; 'Played.' shows a series of eighth notes starting on F# and ascending.   
 - The second staff: 'Written.' shows three chords (F# major, D major, and B major) with long horizontal lines above them; 'Played.' shows a series of eighth notes starting on F# and ascending.   
 - The third staff: 'Written.' shows a single note (F#) with a long horizontal line above it; 'Played.' shows a series of eighth notes starting on F# and ascending.

The sign *M.D.* means right hand, and *M.S.*, left hand.

#### PHRASING,

A musical phrase may be complete, as when it embraces any regular symmetrical course of notes which begin and complete the intended expression; or, so to speak, when a full question is asked, or when fully answered. Music, like language, is divided into sentences of longer or shorter duration, according to the marks, signs, and slurs of the composer.

A musical phrase is incomplete when it does not include a full question, or a full answer, or a full symmetrical course of notes. This subject requires personal instruction to be fully comprehended, though much can be learned from examples, which, in a book of this size, we have not the space to devote to it. A few hints will suffice our purpose, and give the student points by which he can explore the field wider, and make discoveries for himself. A full musical phrase equals in language what is embraced within a period: it is generally known by the double bar, or the end of a slur or bind. The beginning of a phrase should always be strongly accented, and unaccented at the end: the more complete the sentence or phrase the stronger should be the accent at the beginning. The beginning of all phrases should be accented, but the shorter or incomplete ones

do not require, and must not receive, so strong an accent as the complete, or full periods. Phrasings included within the semicolon or comma do not require so much of an accent as those embraced or concluded within the space of a period. In playing the piano always take the hand or finger up from the keys at the end of every well defined phrase, so as to begin the next phrase with an accent and with precision. The singer should always take breath at the end of every phrase, no matter how short! There is nothing in music which shows the artist to fairer advantage than correct phrasing; it gives color and expression to it, the same as good reading does to language. A reader who uses the same stress of voice throughout, and who passes all the punctuation marks without stopping to take breath, will never make any sense out of his subject, and will never become popular as a reader. So with the singer and player, for what is true of one is also true of the other. We advise all students to make it a special point to hear and watch artists of merit, as through this means much can be learned which cannot be obtained through any other source.

We have endeavored to give a full, clear, and concise statement of all the signs and characters employed in writing music, and we feel assured that if the student has followed the examples closely, as laid down in this work, he will experience no difficulty in reading or writing any music he may desire, so far as the signs and characters are concerned.

We again urge the necessity of a thorough commital of all the signs and characters used in this book, as it will greatly facilitate the student in gaining a complete mastery of this difficult subject. Remember "that what is worth doing at all is worth doing well."

[*End of Part First.*]

## PART SECOND.

## HARMONY.

## CHAPTER I.

## DIFFERENT INTERVALS WITH THE SAME NAME.

In the first part of this work, the intervals were named from the number of their degrees from each other; we will now treat them according to their actual dimensions. For instance, we called the interval from e to f, a *degree*, and from c to d, a *degree*; but it must be observed that from c to d is a *whole tone*, while from e to f is a *semitone*.

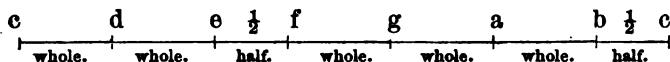
## EXAMPLE 1. Major and minor seconds belonging to the major scale of C.

The example consists of two staves of music in treble clef, showing intervals in the C major scale. The first staff shows intervals from C to D, D to E, E to F, and F to G. The second staff shows intervals from G to A, A to B, and B to C. Above each pair of notes, the interval is named: 'major second.' for C-D, D-E, and G-A; 'minor second.' for E-F and B-C; and 'major second.' for F-G. Below each pair of notes, the actual dimension is given: 'whole tone.' for C-D, D-E, and G-A; 'half tone.' for E-F and B-C.

Interval	Notes	Interval Name	Actual Dimension
major second.	C - D	major second.	whole tone.
major second.	D - E	major second.	whole tone.
minor second.	E - F	minor second.	half tone.
major second.	F - G	major second.	whole tone.
major second.	G - A	major second.	whole tone.
major second.	A - B	major second.	whole tone.
minor second.	B - C	minor second.	half tone.

There are still other sizes of intervals for which we must have specific names. We will therefore designate all intervals by the name of *major*, *minor*, *diminished* and *augmented*, or *four* sizes of every kind of interval. Some authors give only three sizes of intervals. We shall rigidly adhere to this order, because we desire to make this part of our work plain and intelligible, avoiding the error of profuse names, which must result in confusion, especially to the young student; aye, and to the old as well.

In the regular order of the scale, we find two sizes of tones; namely, *whole tone*, and *semitone*.



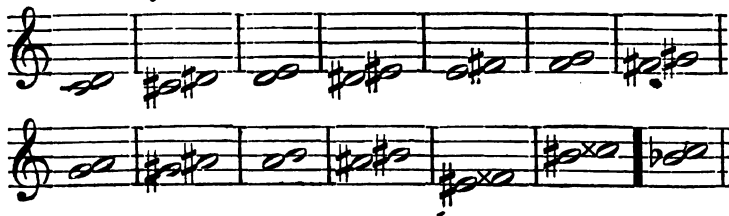
In addition to the *semitones* between e and f, b and c, many others may be formed by means of the chromatic signs of elevation and depression. We will now write *minor tone*, instead of *semitone*, or, the name *minor* will be substituted for *semitone*, and *major* will be used hereafter in place of *whole tone*.

### Ex. 2. Minor Seconds.

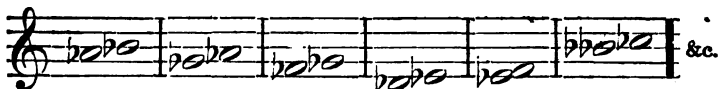


Ex. 2. Minor Seconds are found from c $\sharp$  to d, d $\sharp$  to e, e to f $\sharp$ , f $\sharp$  to g, g $\sharp$  to a, a $\sharp$  to b, b $\sharp$  to c $\sharp$ , c $\times$  to d $\sharp$ , f $\times$  to g $\sharp$ , c to b, b $\flat$  to a, a $\flat$  to g, g $\flat$  to f, f $\flat$  to e $\flat$ , e $\flat$  to d, d $\flat$  to c, b $\flat$  to c $\flat$ , or a to b $\flat$ , g to a $\flat$ , d to e $\flat$ , c to d $\flat$ , f to g $\flat$ , b $\flat$  to c $\flat$ , e $\flat$  to f $\flat$ , a $\flat$  to b $\flat$ .

### Ex. 3. Major Seconds.





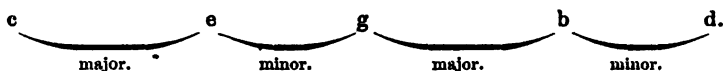


*Major Seconds.* Ex. 3. c to d, c $\sharp$  to d $\sharp$ , d to e, d $\sharp$  to e $\sharp$ , e to f $\sharp$ , f $\sharp$  to g $\sharp$ , g $\sharp$  to a $\sharp$ , a $\sharp$  to b $\sharp$ , e $\sharp$  to f $\times$ , b $\sharp$  to c $\times$ , b $\flat$  to c, a $\flat$  to b $\flat$ , g $\flat$  to a $\flat$ , f $\flat$  to g $\flat$ , d $\flat$  to e $\flat$ , e $\flat$  to f, b $\flat$  to c $\flat$ .

Ex. 4. Thirds.

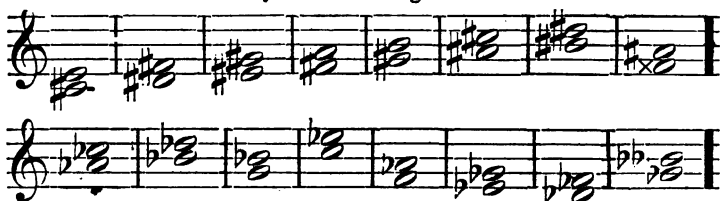


*Thirds.* Ex. 4. A third consists of two degrees; namely, from c to e, f to a, g to b, a to c. There are *two* different kinds of thirds found in the series of natural tones, major and minor.



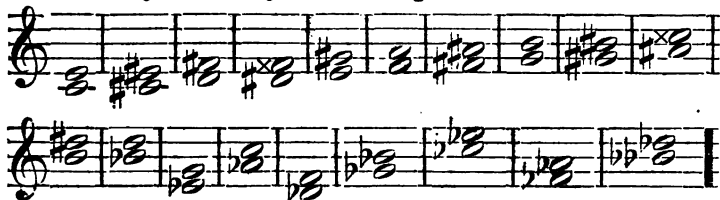
or, c to e, major, d to f, minor, e to g, minor, f to a, major, g to b, major, a to c, minor, b to d, minor. Beside these two sizes. many others can be formed by means of the chromatic signs

Ex. 5. Minor Thirds by Chromatic Signs.



Ex. 5. *Minor Thirds.* c $\sharp$  to e, d $\sharp$  to f $\sharp$ , e $\sharp$  to g $\sharp$ , f $\sharp$  to a, g $\sharp$  to b, a $\sharp$  to c $\sharp$ , b $\sharp$  to d $\sharp$ , f $\times$  to a $\sharp$ , a $\flat$  to c $\flat$ , b $\flat$  to d $\flat$ , g to b $\flat$ , c to e $\flat$ , f to a $\flat$ , e $\flat$  to g $\flat$ , d $\flat$  to f $\flat$ , g $\flat$  to b $\flat$ .

## Ex. 6. Major Thirds by Chromatic Signs.

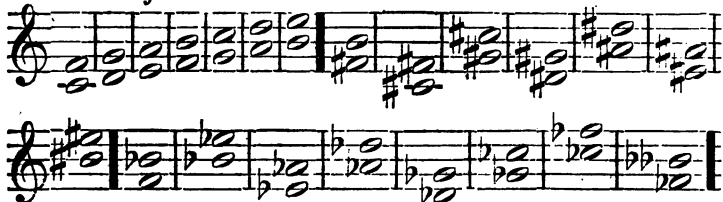


Ex. 6. *Major Thirds.*  $c\sharp$  to  $e\sharp$ ,  $d\sharp$  to  $f\times$ ,  $d$  to  $f\sharp$ ,  $e$  to  $g\sharp$ ,  $f\sharp$  to  $a\sharp$ ,  $g\sharp$  to  $b\sharp$ ,  $a\sharp$  to  $c\times$ ,  $a$  to  $c\sharp$ ,  $b$  to  $d\sharp$ ,  $b\flat$  to  $d$ ,  $e\flat$  to  $g$ ,  $a\flat$  to  $c$ ,  $d\flat$  to  $f$ ,  $g\flat$  to  $b\flat$ ,  $c\flat$  to  $e\flat$ ,  $f\flat$  to  $a\flat$ ,  $b\flat\flat$  to  $d\flat$ .

There are two species of fourths, *major*, (the same as perfect,) and *minor*:  $c$  to  $f$ ,  $d$  to  $g$ ,  $e$  to  $a$ ,  $g$  to  $c$ ,  $a$  to  $d$ ,  $b$  to  $e$ , are *minor*:  $f$  to  $b$ , is *major*.

Some of the *minor fourths* which can be formed by the chromatic signs.

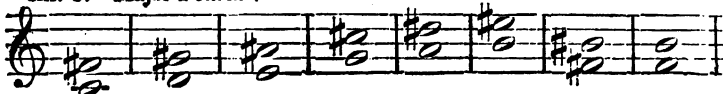
## Ex. 7. Major and minor Fourths.



Ex. 7.  $f\sharp$  to  $b$ ,  $c\sharp$  to  $f\sharp$ ,  $g\sharp$  to  $c\sharp$ ,  $d\sharp$  to  $g\sharp$ ,  $a\sharp$  to  $d\sharp$ ,  $e\sharp$  to  $a\sharp$ ,  $b\sharp$  to  $e\sharp$ ,  $f\times$  to  $c\sharp$ ,  $f$  to  $b\flat$ ,  $b\flat$  to  $e\flat$ ,  $e\flat$  to  $a\flat$ ,  $a\flat$  to  $d\flat$ ,  $d\flat$  to  $g\flat$ ,  $g\flat$  to  $c\flat$ ,  $e\flat$  to  $f\flat$ ,  $f\flat$  to  $b\flat\flat$ .

Some of the *major* (perfect) *fourths*.

## Ex. 8. Major Fourths.

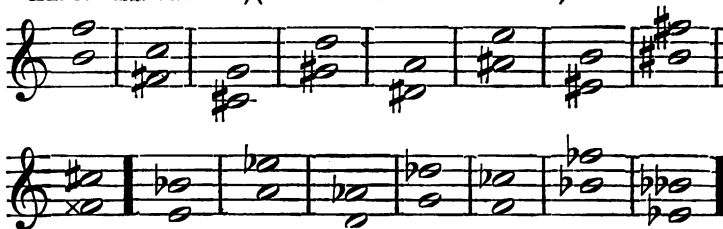




Ex. 8. c to f $\sharp$ , d to g $\sharp$ , e to a $\sharp$ , g to c $\sharp$ , a to d $\sharp$ , b to e $\sharp$ , f $\sharp$  to b $\sharp$ , c $\sharp$  to f $\times$ , b $\flat$  to f $\flat$ , e $\flat$  to a, a $\flat$  to d, d $\flat$  to g, g $\flat$  to c, c $\flat$  to f, f $\flat$  to b $\flat$ , b $\flat$  to e $\flat$ . According to the *old* method, fourths are called *pure* or *perfect* instead of *minor*, and *false* instead of *major*. Other names are also given, varying as the whim or caprice of the author dictates; but uniformity is necessary to a thorough understanding of the subject, and therefore we shall, as previously stated, adhere to *one* system of names, so there will be no possibility of the student getting confused, or lost in the mazes of a promiscuity of terms. The *same name* will mean the *same thing* throughout. We give these examples in two ways, that the eye may readily take in the contents, whichever way is stated.

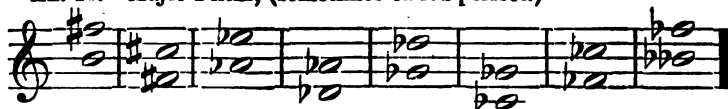
Fifths are also of two sizes, major and minor. The only *minor fifth* in the natural series of tones is from b to f; all the others are major.

Ex. 9. Minor Fifths, (sometimes called diminished.)



Ex. 9. f $\sharp$  to c, c $\sharp$  to g, g $\sharp$  to d, d $\sharp$  to a, a $\sharp$  to e, e $\sharp$  to b, b $\sharp$  to f $\sharp$ , f $\times$  to c $\sharp$ , e to b $\flat$ , a to e $\flat$ , d to a $\flat$ , g to d $\flat$ , c to g $\flat$ , f to c $\flat$ , b $\flat$  to f $\flat$ , e $\flat$  to b $\flat$ .

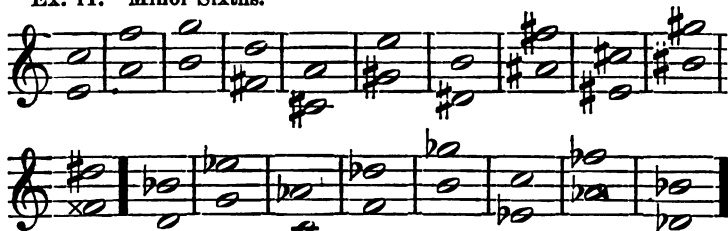
## Ex. 10. Major Fifths, (sometimes called perfect.)



Ex. 10.  $b$  to  $f\sharp$ ,  $f\sharp$  to  $c\sharp$ ,  $c\sharp$  to  $g\sharp$ ,  $g\sharp$  to  $d\sharp$ ,  $d\sharp$  to  $a\sharp$ ,  $a\sharp$  to  $e\sharp$ ,  $e\sharp$  to  $b\sharp$ ,  $b\sharp$  to  $f\times$ ,  $b\flat$  to  $f$ ,  $e\flat$  to  $b\flat$ ,  $a\flat$  to  $e\flat$ ,  $d\flat$  to  $a$ ,  $g\flat$  to  $d\flat$ ,  $e\flat$  to  $g\flat$ ,  $f\flat$  to  $c\flat$ ,  $b\flat$  to  $f\flat$ .

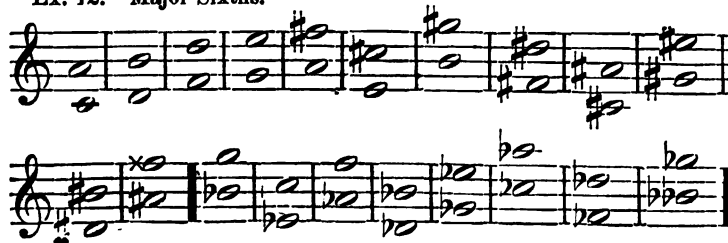
The term *diminished* or *false* fifth is frequently used for *minor*, and *pure* or *perfect* for *major*. We discard these names. The *minor sixth* consists of *three* major degrees and *two* minor, E—c, A—f, B—g.

## Ex. 11. Minor Sixths.



Ex. 11. Minor Sixths by chromatic signs.  $f\sharp$  to  $d$ ,  $c\sharp$  to  $a$ ,  $g\sharp$  to  $e$ ,  $d\sharp$  to  $b$ ,  $a\sharp$  to  $f\sharp$ ,  $e\sharp$  to  $c\sharp$ ,  $b\sharp$  to  $g\sharp$ ,  $f\times$  to  $d\sharp$ ,  $d$  to  $b\flat$ ,  $g$  to  $e\flat$ ,  $c$  to  $a\flat$ ,  $f$  to  $d\flat$ ,  $b$  to  $g\flat$ ,  $e\flat$  to  $c$ ,  $a\flat$  to  $f\flat$ ,  $d\flat$  to  $b\flat$ .

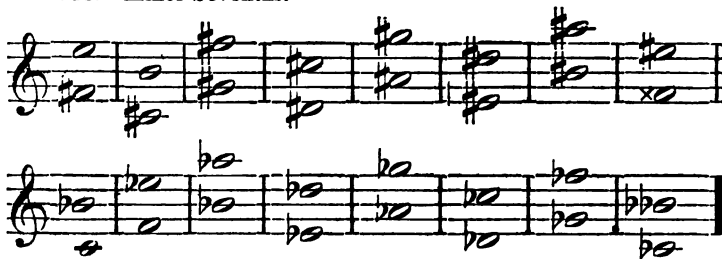
## Ex. 12. Major Sixths.



Ex. 12. Major Sixths by chromatic signs. a to f $\sharp$ , e to c $\sharp$ , b to g $\sharp$ , f $\sharp$  to d $\sharp$ , c $\sharp$  to a $\sharp$ , g $\sharp$  to e $\sharp$ , d $\sharp$  to b $\sharp$ , a $\sharp$  to f $\times$ , b $\flat$  to g, e $\flat$  to c, a $\flat$  to f, d $\flat$  to b $\flat$ , g $\flat$  to e $\flat$ , c $\flat$  to a $\flat$ , f $\flat$  to d $\flat$ , b $\flat\flat$  to g $\flat$ .

*Major and Minor Sevenths.* There are only two major sevenths in the natural series of tones, C—b, and F—e.

Ex. 13. Minor Sevenths.



Ex. 13 Minor Sevenths by chromatic signs. f $\sharp$  to e, c $\sharp$  to b, g $\sharp$  to f $\sharp$ , d $\sharp$  to c $\sharp$ , a $\sharp$  to g $\sharp$ , e $\sharp$  to d $\sharp$ , b $\sharp$  to a $\sharp$ , f $\times$  to e $\sharp$ , c to b $\flat$ , f to e $\flat$ , b $\flat$  to a $\flat$ , e $\flat$  to d $\flat$ , a $\flat$  to g $\flat$ , d $\flat$  to c $\flat$ , g $\flat$  to f $\flat$ , c $\flat$  to b $\flat\flat$ , b $\flat\flat$  to a $\flat$ .

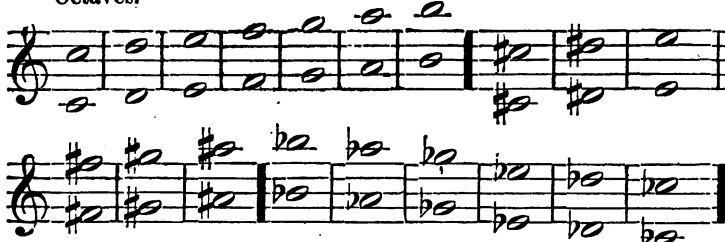
Ex. 14. Major Sevenths.



Ex. 14. Major Sevenths by chromatic signs. g to f $\sharp$ , d to c $\sharp$ , a to g $\sharp$ , e to d $\sharp$ , b to a $\sharp$ , f $\sharp$  to e $\sharp$ , c $\sharp$  to b $\sharp$ , g $\sharp$  to f $\times$ , b $\flat$  to a, e $\flat$  to d, a $\flat$  to g $\flat$ , d $\flat$  to c $\flat$ , g $\flat$  to f $\flat$ , c $\flat$  to b $\flat$ , f $\flat$  to e $\flat$ , b $\flat\flat$  to a $\flat$ .

The *octave* is always the same, it being neither great or small ; it is called *pure*.

**Octaves.**



Major and minor *ninths*, *tenths* and *elevenths* are only repetitions of the second, third and fourth. We have seen that intervals so far in our study have been only major and minor, and that the difference between them is just one key, or a minor second. There are other intervals produced by means of the chromatic signs, which we will proceed to explain in our next chapter.

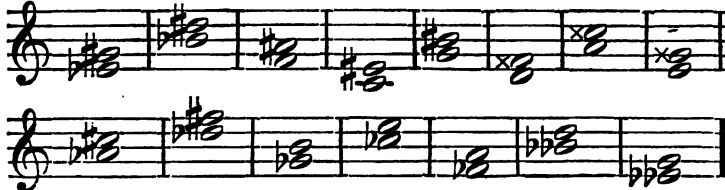
## CHAPTER II.

### DIMINISHED AND AUGMENTED INTERVALS.

Intervals which are a *minor second* larger than *major*, are called *augmented*; and when a minor second *smaller* than minor, they are called *diminished*. It must be stated and borne in mind, that two notes occurring on the same degree is called a *prime*, and that when *one* of these notes is *raised* or *depressed* by a chromatic sign, it is called an *augmented prime*. There is no such thing as a *diminished prime*. The *augmented prime* and the *minor second* represent one and the same key on the piano, though *harmonically* speaking, they are treated differently. Some theorists treat of the *diminished* and *augmented* tone, or second; for instance, c to c $\sharp$  and c to d $\flat$  is a *diminished second*; and though c $\sharp$  and d $\flat$  represent the same key on the piano, they have

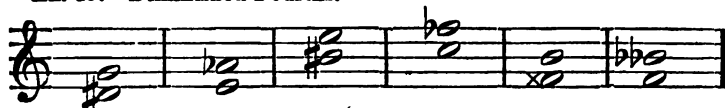


**Ex. 18. Augmented Thirds.**



*Augmented Thirds* are as follows: e♭ to g♯, b♭ to d♯, f to a♯, c to e♯, g to b♯, d to f×, a to c×, e to g×, a♯ to c♯, d♯ to f♯, g♯ to b, c♯ to e, f♯ to a, b♯ to d, e♯ to g.

### Ex. 19. Diminished Fourths.



*Diminished Fourths* are as follows: d $\sharp$  to g, e to a $\flat$ , b $\sharp$  to e, c to f $\sharp$ , f $\times$  to b, f to b $\flat\flat$ , &c.

### Ex. 20. Augmented Fourths.

### Ex. 21. Diminished Fifths.



**Augmented Fourths.** f to b $\sharp$ , f $\sharp$  to b, c to f $\times$ , b $\flat$  to e, e $\flat$  to a $\sharp$ .

*Diminished Fifths.*  $c\sharp$  to  $g\flat$ ,  $b$  to  $f\sharp$ ,  $f\sharp$  to  $c$ ,  $e$  to  $b\flat\flat$ , &c.

### Ex. 22. Augmented Fifths.



*Augmented Fifths.* c to g $\sharp$ , g to d $\sharp$ , a $\sharp$  to e, e to b $\sharp$ , f $\sharp$  to c, b to f $\times$ , b $\sharp$  to f, &c.

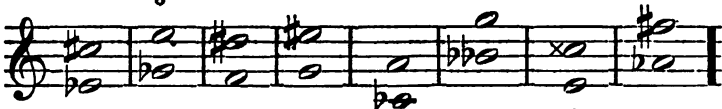


## Ex. 23. Diminished Sixths.



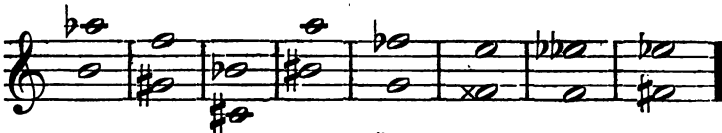
*Diminished Sixths.* b to g $\sharp$ , a $\sharp$  to f, c $\sharp$  to e, e to c $\flat$ , f $\times$  to d, d to b $\flat\flat$ , f $\sharp$  to d $\flat$ , &c.

## Ex. 24. Augmented Sixths.



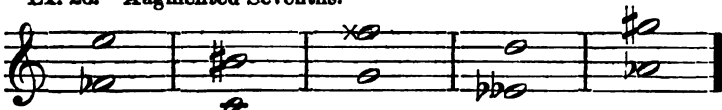
*Augmented Sixths.* c2 to c $\sharp$ , g $\sharp$  to e, f to d $\sharp$ , g to c $\sharp$ , c $\sharp$  to a, b $\flat\flat$  to g, e to f $\sharp$ , a $\sharp$  to f $\sharp$ , &c.

## Ex. 25. Diminished Sevenths.



*Diminished Sevenths.* b to a $\sharp$ , g $\sharp$  to f, c $\sharp$  to b $\flat$ , b $\flat$  to a, g to f $\flat$ , f $\times$  to e, f to e $\flat$ , f $\sharp$  to e $\flat$ .

## Ex. 26. Augmented Sevenths.



*Augmented Sevenths.* f2 to e, c to b $\sharp$ , g to f $\times$ , e $\flat\flat$  to d, a $\sharp$  to g $\sharp$ , &c.

As we before stated, *octaves* are *pure* intervals, but by some harmonists are treated as *augmented* and *diminished*, though this work will not include any such elaborate treatment, or dispute points of different theorists.

## SIGNS FOR DIFFERENT INTERVALS.

To represent different distances of tones by short signs, we employ our ordinary figures : 2 stands for the second ; 3 for third ; 4, fourth ; 5, fifth ; 6, sixth ; 7, seventh. To still further represent the size, (specific) we will employ dots *before* and *after* the figures. A dot *before* the figure, thus, .2 represents a *minor* second ; *after* the figure, thus, 2. *major*. Two dots before the figure, thus, .. 3 a *diminished* third ; two dots *after* the figure, thus, 5.. an *augmented* fifth. *Minor* intervals coincide with *augmented*, and *augmented* with *minor*. It will be observed that each interval contains a specific number of minor seconds, and when once learned can always be readily recognized.

## CHAPTER III.

## INVERSION OF INTERVALS.

By *inversion* we mean, changing places. If the *lowest* note of an interval is carried up an *octave*, the interval is said to be *inverted*. Inversion means then, that the lowest note must be carried up an octave.

## Ex. 27. Inversions.

The example shows six intervals on a treble clef staff, each labeled 'In.' above it. Below the staff are four pairs of notes, each labeled 'Inverted.' above it. The first pair is labeled 'c-d' below it, the second 'd-c', the third 'd-g', and the fourth 'g-d'.

The intervals shown are: c-d, d-c, d-g, g-d. The inversions are: d-c, c-d, g-d, d-g.

It is easy to see that in *every* inversion the interval is changed, and that the distance of tones does not remain the same.

TABLE SHOWING THE CHANGE OF INTERVALS.

The 2d becomes a 7th,				The 5th becomes a 4th,			
3d	"	"	6th,	6th	"	"	3d,
4th	"	"	5th,	7th	"	"	2d.
or, 2 3 4 5 6 7				4 5 6 7			
7 6 5 4 3 2							

The *octave* when inverted gives no other interval, and consequently the same interval is represented over again. By inversion, intervals which are *major* become *minor*, and *minor* become *major*; *augmented* become *diminished*, and *diminished* become *augmented*.

TABLE SHOWING AUGMENTED AND DIMINISHED INTERVALS

.2	7.	.2	<i>minor</i> seconds become <i>major</i> sevenths.
.3	6.	.3	<i>minor</i> thirds become <i>major</i> sixths.
.4	5	.4	<i>minor</i> fourths become <i>major</i> fifths.
.5	4.	.5	<i>minor</i> fifths become <i>major</i> fourths.
.6	3.	.6	<i>minor</i> sixths become <i>major</i> thirds.
.7	2.	.7	<i>minor</i> sevenths become <i>major</i> seconds.

We would advise the student to go through all the inversions of the different intervals, for they will prove an invaluable exercise.

## INTERVALS OF THE SCALE ACCORDING TO RICHTER.

## Major Seconds.



## Minor Seconds.



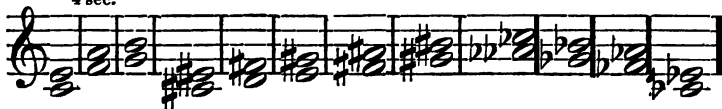
### Augmented Seconds.

3 sec.



### Major Thirds.

4 вес.



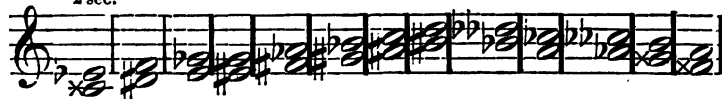
### Minor Thirds.

3 sec.



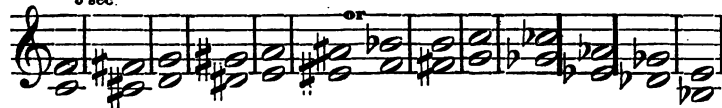
### Diminished Thirds.

**2 sec.**



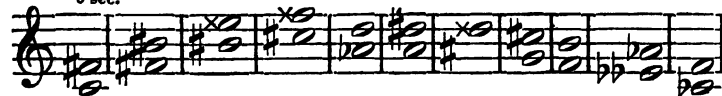
### Major or Perfect Fourths.

5 sec



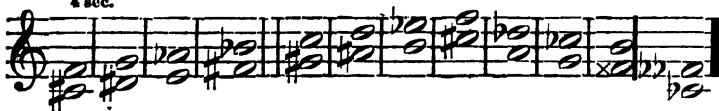
### Augmented Fourths.

6 вес.



## Diminished Fourths.

4 sec.



## Perfect Fifths.

7 sec.



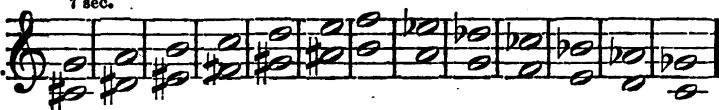
## Augmented Fifths.

8 sec.



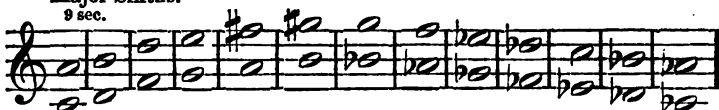
## Diminished Fifths.

7 sec.



## Major Sixths.

9 sec.



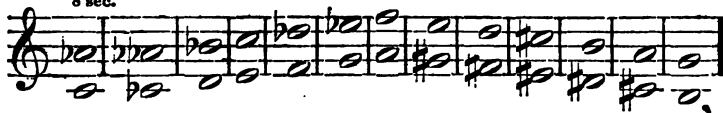
## Augmented Sixths.

10 sec.



### Minor Sixths.

**8 sec.**



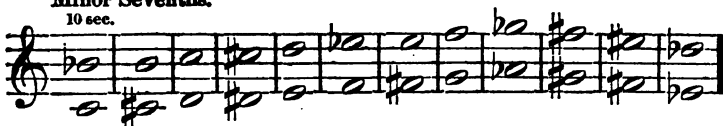
### Major Sevenths.

**11 sec.**



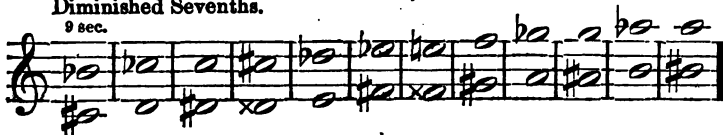
### Minor Sevenths.

**10 sec.**



### Diminished Sevenths.

**9 sec.**



## Octaves.

**12 sec.**



### Augmented Octaves.

**13 sec.**



## Diminished Octaves.

11 sec.



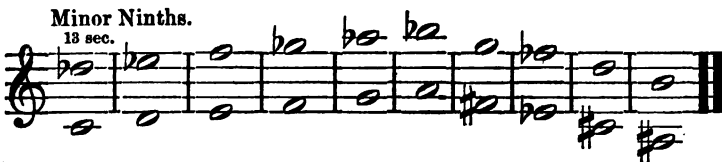
## Ninths.

14 sec.



## Minor Ninths.

13 sec.



## CHAPTER IV.

## THE MOVEMENT OF VOICES OR PARTS.

Musical art connects the various tones into a musical composition in two different ways : first, in such a manner as to let us hear them following one another successively ; and second, in such a way as to let us hear two or more of them *sounding at the same time*. A *successive series of tones* following one another according to the principles of musical art or grammar, in a musical sense, is called a *melody* or *theme*. Several tones sounding at the same time, is called a *chord*. Several successive *chords* following one another in accordance with the grammatical rules of the art, is called *Harmony*. A person singing a succession of musical tones, (*melody*,) is called a *voice*. When an instrument plays a succession of musical tones, it is called a *part*. The movement or carriage of voices or parts, is called Theory, or Musical Composition.

Every passage of music consists of one or several voices or parts. In the former case it is called one-voiced ; in the latter, several-voiced. Harmony is usually written with four parts, but it may have more. *Rousseau* states that it is impossible for the ear to distinguish more than two voices at once, while *Marpurg* contends that it is possible to hear a *hundred and thirty-three*. The margin between these two celebrated writers is so great, that we conclude both are wide of the mark. Our object is not to ascertain how many voices can be heard at once, but to make ourselves acquainted with the best method of moving the *four parts*, which is adopted as our standard. In four-voiced composition, the highest voice is called *soprano* ; the lowest, *bass* ; the two middle voices are called *tenor* and *alto*. How these several voices are to move according to the grammatical rules of music, is called *musical progression* ; but as writers and composers differ so materially on this point, our treatment will necessarily be somewhat limited ; that is to say, we shall not prescribe how or in what way a voice shall move, except in a general way. The two outer voices usually make a stronger impression upon the ear than the middle voices, and the highest voice is strongest of all. The outer voices are therefore called the *principal*, and the middle, *secondary* voices. As the *principal* voices particularly impress the ear, they require the most careful construction in accordance with the laws pertaining to the carriage of voices, as a slight deviation from the regular purity is quickly observed, making it offensive to the ear.

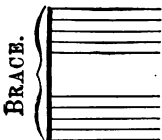
It has already been observed that there are two ways of producing musical sounds : one by the human throat, the other by musical instruments. In respect to *singing* voices, they are of far greater importance than *instrumental* voices, and when used together, the *former* take the higher rank, while the *latter* appear only as *secondary*, or forming an *accompaniment* to the vocal parts. In respect to the nature of voices, *male* and *female*, male voices are an octave *lower* than female voices. Male voices are divided into *three* classes : *Tenor*, the highest male voice ; *Barytone*, the low tenor ; and *Bass*, the lowest male voice. There are also three classes of the female voice : *Soprano*, the highest ;



*Contralto*, the middle; and *Alto*, the lowest. Boys' voices are generally alto, though there are instances where they possess an excellent


quality of soprano voice, singing as high as  $\overset{=}{\underset{=}{0}}$  three times marked.

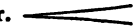
A single voice is called a *melody*; two voices is called a *duet*; three voices a *trio*; four voices a *quartet*; five voices a *quintet*; six voices a *sextet*, &c. The difference between a few and many-voiced composition consists in the following things. The many-voiced composition is in general more full, ample, and richer in sound than the few-voiced. Another difference consists in the fact that the larger the number of voices, the more difficult it is for the ear to distinguish or follow out the different parts or threads; and the less the number of voices, the easier it is for the ear to distinguish them. In many-voiced compositions, a slight deviation in the strict rule of the movement of the parts may easily be made unperceived, while in a few-voiced composition, more care must be exercised, &c., &c. A four-voiced composition has the advantage over either the many or few-voiced, because it seems to be the happy medium between them, neither sounding too full nor too thin.

BRACE.  Several voices sounding together in a musical composition are commonly written on several staves, connected by a character called a *Brace*. The whole is called a *Score*.

The movement of a voice is either quick or slow, according to the number of tones passed over in a given time. In general, a quick movement is better adapted to high voices, while a slow movement is better for low voices. The sounds of low voices and bass instruments vibrate slowly, and therefore cannot express a quick movement with any good degree of satisfaction, from their very nature and construction. On the other hand, high voices and high instruments represent a greater number of vibrations, and are consequently better adapted to all quick movements:

The direction of voices may be either upwards or downwards. They may move a single step, two, three or even more steps at once. Like

movement is where several voices move in the same time and direction. Unlike movement is where one voice proceeds faster or slower than another. Like movement produces more sameness than unlike movement, and therefore, for variety, unlike movement is the best. *Two voices moving in the same direction* is called *parallel motion*. *Two voices moving in contrary direction* is called *contrary motion*. *Two voices, one moving either up or down from the other* is called *oblique motion*. There are then, three movements: *parallel*, *contrary*, and *oblique*. *Converging* movement is when the parts come toward each other. 

*Diverging* movement is where the parts move opposite from each other.  This subject will be further illustrated in the treatment of Harmony, which comes in our next chapter.

## CHAPTER V.

## FUNDAMENTAL HARMONIES.

The lowest tone of any group of notes is called the *bass* or *fundamental* tone.



The variety of chords occurring in music is almost infinite, though they are all reducible to a few species in name, and are called fundamental chords. There are *two species* of fundamental harmonies, called *three* and *four-fold* chords; the latter are sometimes called chords of the *seventh*. The three-fold harmonies consist of *three* tones: a *bass* tone, (lowest), the *third*, and *fifth*, viz: c e g, f a c, g b d. These three-fold chords are sometimes called *Triads*, because they consist of three tones.

Ex. 1.



Triads may be formed on *every degree* of the scale, and are either *major*, *minor*, or *diminished*, according as the intervals are *major* or *minor*. We present the *major* scale of C, with all its triads. The first chord, *c e g*, the fourth chord, *f a c*, and the fifth chord, *g b d*, contain *major* thirds from one to three, and *minor* thirds from three to five; we shall call them *major* three-fold chords or *major* triads. The chords *d f a*, *e g b*, and *a c e*, contain *minor* thirds from one to three, and *major* thirds from three to five. We denominate these, *minor* three-fold chords or *minor* triads. The chord *b d f*, on the *seventh* degree, contains *two minor* thirds, and is called a *diminished* triad.

The natural major scale of C, it will be observed, contains *three major*, *three minor* and *one diminished* three-fold chord. On the *first*, *fourth* and *fifth* are found *major*; on the *second*, *third* and *sixth* are found *minor*; and on the *seventh* degree, a *diminished* triad. All the twelve major scales contain just the same number of *major*, *minor* and *diminished* chords, and they are situated in just the same order or position as in the example given above. *The student must transpose* these chords into *all* the other major keys if he wishes to be benefitted by the study of harmony in this or any other good instruction book; but fearing he will fail to do this, we here present them in tabular form.

MAJOR SCALE OF C WITH ITS FUNDAMENTAL THREE-FOLD HARMONIES  
TRANPOSED INTO DIFFERENT KEYS.

Ex. 2. In C.

Major. 1. Minor. 2. Minor. 3. Major. 4. Major. 5. Minor. 6. Diminished. 7.

I IV V

1. Tonic three-fold chord. 4. Subdominant chord. 5. Dominant chord.

Major. major. major.

I II III IV V VI VII

Detailed description: A single musical staff in treble clef showing seven chords. Chord I is a major triad (C-E-G). Chords II, III, IV, V, VI, and VII are dyads (two-note chords). Chord II is D-F, III is E-G, IV is F-A, V is G-B, VI is A-C, and VII is B-D.

minor. minor. minor. diminished.

II III VI °VII

Detailed description: A single musical staff in treble clef showing four chords. Chord II is a minor dyad (D-F). Chord III is a minor dyad (E-G). Chord VI is a minor dyad (A-C). Chord VII is a diminished triad (B-D-F).

In G.

I Major IV major V major II minor III minor VI minor VII diminished.

Detailed description: A single musical staff in treble clef with a key signature of one sharp (F#). It shows seven chords: I (G-B-D, Major), IV (C-E-G, major), V (F#-A-C, major), II (A-C-E, minor), III (B-D-F, minor), VI (E-G-B, minor), and VII (F#-A-C, diminished).

In F.

I Major. IV major. major. II minor. III minor. VI minor. VII diminished.

Detailed description: A single musical staff in treble clef with a key signature of one flat (Bb). It shows seven chords: I (F-A-C, Major), IV (Bb-D-F, major), V (C-E-G, major), II (D-F-A, minor), III (E-G-Bb, minor), VI (F-A-C, minor), and VII (Bb-D-F, diminished).

In D.

Major. minor. minor. major. major. minor. diminished.

BASS.

I II III IV V VI VII

Detailed description: Two musical staves in treble and bass clefs with a key signature of two sharps (F# and C#). The top staff shows seven chords: I (D-F#-A, Major), II (E-G-A, minor), III (F#-A-C#, minor), IV (F#-A-C#, major), V (A-C#-E, major), VI (B-D-F#, minor), and VII (C#-E-G, diminished). The bottom staff, labeled 'BASS.', shows the same seven chords in the bass register.

Major. minor. minor. major. major. minor. dim

I II III IV V VI VII

Major. minor. major. major.

Minor. minor. minor. diminished.

1 2 3 4 5 6 7 1 2 3 4 5 6 7

1 2 3 4 5 6 7

The *Minor* scale already explained, with the *augmented seventh*, contains its different three-fold chords arranged in the following order.

MINOR SCALE OF A, WITH ITS FUNDAMENTAL HARMONIES TRANSPOSED  
INTO DIFFERENT KEYS.

Minor. dim. aug. minor. major. major. dim. minor.  
I II III IV V VI VII

I II III IV V VI VII\*  
dim. dim.

Minor. dim. aug. minor. major. major. dim. minor.  
1 2 3 4 5 6 7 8

Bass.

Minor. dim. aug. min. maj. maj. dim. min.

D minor.

Minor. dim. aug. min. maj. maj. dim. min.

E minor.

Minor. dim. aug. min. maj. maj. dim. min.

B minor.

Minor. dim. aug. min. maj. maj. dim. min.

G minor.

Minor. dim. aug. min. maj. maj. dim. min.

The *first* degree of the minor scale contains a *minor* triad; the *second* degree a *diminished* triad; the *third* degree an *augmented* triad; the *fourth* degree a *minor* triad; the *fifth* degree a *major* triad; the *sixth* degree a *major* triad; the *seventh* degree a *diminished* triad. This scale contains *two major* triads, situated on the *fifth* and *sixth* degrees of the scale; *two minor* triads, situated on the *first* and *fourth* degrees of the scale; *two diminished* triads, situated on the *second* and *seventh* degrees of the scale, and an *augmented* triad on the *third* degree. An *augmented* triad is composed of *two major* thirds. Each of the *twelve minor* scales contain the same number of *major*, *minor* *diminished* and *augmented* triads, situated in the same order as here given.

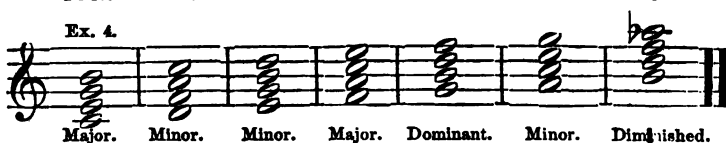
It will be found that the *three-fold chord* as arranged, contains *two* intervals, situated at the distance of a *third* and a *fifth* from the fundamental tone, and that they are sometimes *major*, *minor*, or *diminished*, taking their names according to the size of the intervals. We also find in like manner, *four different species of four-fold chords*, consisting of a fundamental tone, its *third*, *fifth* and *seventh*, thus: *c e g b*.

This species of seventh is called a *major* four-fold chord. From the *fundamental* tone to its *third* is *major*; to its *fifth*, *major*, and to its *seventh*, *major*.

If all the intervals are *large* or *major*, it is a *major* three-fold chord with the *seventh* added. Here follow the *four species of seventh*:

## FOUR-FOLD HARMONIES FOUNDED ON THE MAJOR SCALE OF C.

Ex. 4.



*Major*, c e g b; *minor*, g b d f; *diminished*, b d f a $\flat$ ; a c e g is a *second species of seventh*, with a *minor third*, *major fifth* and a *minor seventh*.

The last chord in the above example is a four-fold chord on the seventh of the scale, with seventh *flatted*, called *diminished*.

The first chord consists of a *major third*, *major fifth*, and *major seventh*, and is called a *major four-fold chord*. A similar chord is found on the *fourth* degree of each *major scale*. *Minor four-fold chords* are found on the *second*, *third*, and *sixth* degrees of every *major scale*. They consist of a *minor third*, *major fifth*, and *minor seventh*. The seventh founded on the *fifth* degree of every *major scale* is called a *Dominant Seventh*; it consists of a *Major third*, *Major fifth*, and a *Minor seventh*. This chord plays a very important role in musical composition. The *Diminished seventh* consists of a *Minor third*, *Minor fifth* and *Minor seventh*. We shall denominate the four-fold chords on the *first* and *fourth* of the *major scale* as *major*; on the *fifth* as *dominant*; on the *second*, *third* and *sixth* as *minor*; on the *seventh* as *diminished*. Transpose these chords into all the *major keys*.

## FOUR-FOLD CHORDS ON THE MINOR SCALE.



In order to distinguish the different kinds of sevenths, we shall hereafter use large capital letters, thus: C  $\text{7}$ , F  $\text{7}$ , C $\sharp$   $\text{7}$ , with a mark through the figure, for *major four-fold chords*. For *minor four-fold chords* we



will use small letters with the plain figure 7: d 7, e 7, a 7. *Dominant* sevenths will be written with large letters, thus: G 7, C 7, C# 7, D 7, A 7, E<sub>2</sub> 7. *Diminished* four-fold chords will be written with small letters, a figure seven, and a cypher, thus: o<sub>a</sub> 7, o<sub>b</sub> 7, o<sub>d</sub> 7, o<sub>e</sub> 7, o<sub>g</sub># 7, &c. As we have before stated, the student must transpose all the above chords into other keys, for practice, if he would be materially benefitted. It is also an excellent practice to accustom the ear to different harmonies by getting a second person to strike them on the piano while you stand with your back to the instrument and name them. Too much attention to this subject cannot be given, for it quickens the ear, and helps cultivate all the musical faculties.

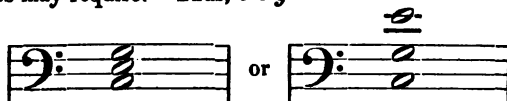
#### CHANGES OF POSITION.

In all the exhibition of the chords so far, the fundamental tone has appeared only in its original position, as the lowest tone, with the third next above, fifth above that, and lastly, the seventh. All the above chords are capable of several transformations without altering the material character of the chord; one becomes a variation of the other: for instance, the chord c e g becomes e g c or g c e; the letters all remain the same, but their position is changed. This changing the position of the letters, necessitates a change of the intervals, so that different intervals and harmonies are constantly multiplying; in fact, there is no real end to the variety of harmonies which can be constructed. This change is called inversion.

#### INVERSION OF THREE-FOLD CHORDS.

We have seen that three-fold chords form in themselves *thirds* and *fifths*; but by *inversion* other intervals are produced. Now to produce an inversion, it is necessary to change the fundamental note, otherwise the chord is not *inverted*. If the *third* or *fifth* is changed and the fundamental note remains in position, there is no inversion, but simply a *displacement* of the *third* and *fifth* into a closer or *dispersed* position.

It has already been observed that the *letters* of a chord *cannot* be changed; they can only be placed *higher* or *lower* on the staff, as circumstances may require. Thus, *c e g*



is a three-fold chord in its *fundamental* position, though in the *second* example the third is carried up an octave. To produce an inversion of this chord, the *c* or *fundamental note* must be carried into the position of the third or fifth. We will now give a few examples of inverted chords.

INVERSIONS OF ALL THE FUNDAMENTAL THREE-FOLD CHORDS IN THE MAJOR SCALE OF C.

fund. 1st inver. 2d inver.

Major. major. major. minor. minor. minor. minor. minor. minor.

maj. maj. maj. maj. maj. min. min. min. dim. dim. dim.

INVERSION OF THE THREE-FOLD CHORDS OF THE A MINOR SCALE.

min. min. min. dim. dim. dim. aug. aug. aug.

min. min. min. maj. maj. maj. maj. maj. dim. dim. dim.

It will be observed that the previous chords are all in the close position. We earnestly recommend the student to transpose them into other keys, and also to write them in both the close and dispersed positions.

The fundamental three-fold chord in its first position is called the *third-fifth* chord; in its first inversion it is called the chord of the *sixth*; in its second inversion it is called the *sixth-fourth* chord, because it produces these intervals with the bass note.

#### INVERSION OF THE FOUR-FOLD HARMONIES OF THE MAJOR SCALE OF C.

EX. 6.

major. maj. maj. maj. minor. min. min. min.

min. min. min. min. maj. maj. maj. maj.

dom. dom. dom. dom. min. min. min. min. dim. dim. dim. dim.

There are *three* inversions of the *four-fold* chords, (sevenths.) Each inversion produces different intervals. The fundamental position is called a chord of the *seventh*. 7. The *first* inversion produces the chord of the *fifth-sixth*:  $\frac{7}{6}$ ; The *second* inversion gives the chord of the *six-four-three*, or  $\frac{7}{4}$ ; the *third* inversion, the chord of the *six-four-two*, or  $\frac{7}{2}$ .

In the appropriate place we shall give the signs and figures necessary for a thorough understanding of all the chords of the seventh.

## MINOR FOUR-FOLD CHORDS ON BASS NOTES OF THE SCALE.

min. I<sup>7</sup>      dim. II<sup>o7</sup>      maj. III<sup>7</sup>      min. IV<sup>7</sup>      dom. V      maj. VI<sup>7</sup>      dim. VII<sup>o7</sup>

The diagram shows seven chords in G minor on a bass staff. The chords are: I<sup>7</sup> (G-Bb-D-F), II<sup>o7</sup> (A-Bb-C-Eb), III<sup>7</sup> (Bb-C-Eb-F), IV<sup>7</sup> (C-Eb-F-A), V (D-F-A-B), VI<sup>7</sup> (E-F-A-Bb), and VII<sup>o7</sup> (F-A-Bb-Cb).

## MINOR FOUR-FOLD CHORDS ON TREBLE NOTES OF THE SCALE.

min. I<sup>7</sup>      dim. II<sup>o7</sup>      maj. III<sup>7</sup>      min. IV<sup>7</sup>      dom. V      maj. VI<sup>7</sup>      dim. VII<sup>o7</sup>

The diagram shows seven chords in G minor on a treble staff. The chords are: I<sup>7</sup> (G-Bb-D-F), II<sup>o7</sup> (A-Bb-C-Eb), III<sup>7</sup> (Bb-C-Eb-F), IV<sup>7</sup> (C-Eb-F-A), V (D-F-A-B), VI<sup>7</sup> (E-F-A-Bb), and VII<sup>o7</sup> (F-A-Bb-Cb).

## INVERTED CHORDS OF THE SEVENTH IN A MINOR.

The diagram shows four staves of inverted chords of the seventh in G minor. The first staff shows the root position and first inversion. The second staff shows the second and third inversions. The third staff shows the fourth and fifth inversions. The fourth staff shows the sixth and seventh inversions.

\* The inversions of the chord on tonic minor are impracticable.

## THREE-FOLD CHORDS OF THE MINOR SCALE AND THEIR INVERSIONS.

Practical lessons for writing, embracing examples in all the different harmonies or combinations used, will be found at the end of this book.

**A minor.** **1st inversion.**

I IV V  $\bar{V}$  I I IV V

**Second inversion.**

I I IV V I

**E minor.** **1st inversion.**

I IV V

**2d inversion.**

First system of musical notation showing the F# minor triad and its first inversion. The treble clef staff contains the notes F#4, A#4, and C#5 in root position, and C#5, F#4, and A#4 in first inversion. The bass clef staff contains the notes F#3, A#3, and C#4 in root position, and C#4, F#3, and A#3 in first inversion. The label "F# minor." is placed below the first measure of the treble staff, and "1st inversion." is placed below the first measure of the bass staff.

Second system of musical notation showing the D minor triad and its second inversion. The treble clef staff contains the notes D4, F#4, and A#4 in root position, and F#4, A#4, and D5 in second inversion. The bass clef staff contains the notes D3, F#3, and A#3 in root position, and F#3, A#3, and D4 in second inversion. The label "2d inversion." is placed below the first measure of the treble staff.

Third system of musical notation showing the D minor triad and its first inversion. The treble clef staff contains the notes D4, F#4, and A#4 in root position, and F#4, A#4, and D5 in first inversion. The bass clef staff contains the notes D3, F#3, and A#3 in root position, and F#3, A#3, and D4 in first inversion. The label "D minor." is placed below the first measure of the treble staff, and "1st inversion." is placed below the first measure of the bass staff.

Fourth system of musical notation showing the D minor triad and its second inversion. The treble clef staff contains the notes D4, F#4, and A#4 in root position, and F#4, A#4, and D5 in second inversion. The bass clef staff contains the notes D3, F#3, and A#3 in root position, and F#3, A#3, and D4 in second inversion. The label "2d inversion." is placed below the first measure of the treble staff.

The image shows musical notation for G minor and its inversions. The first system is for G minor, with the treble clef staff showing three chords (G-B-D, G-B-D, G-B-D) and the bass clef staff showing the corresponding bass notes (B, D, G). The second system is for the first inversion, with the treble clef staff showing three chords (B-D-G, D-G-B, G-B-D) and the bass clef staff showing the corresponding bass notes (D, G, B). The third system is for the second inversion, with the treble clef staff showing three chords (D-G-B, G-B-D, B-D-G) and the bass clef staff showing the corresponding bass notes (G, B, D).

G minor. 1st inversion. Second inversion.

EXAMPLES OF INVERTED THREE-FOLD CHORDS CONTINUED, IN CLOSE AND DISPERSED POSITIONS.

The image shows musical notation for C major and A minor chords in various positions. The first system is for C major, with the treble clef staff showing three chords (C-E-G, E-G-C, G-C-E) and the bass clef staff showing the corresponding bass notes (C, E, G). The second system is for A minor, with the treble clef staff showing three chords (A-C-E, C-E-A, E-A-C) and the bass clef staff showing the corresponding bass notes (A, C, E). The third system is for A minor, with the treble clef staff showing three chords (A-C-E, C-E-A, E-A-C) and the bass clef staff showing the corresponding bass notes (A, C, E).

Ex. 7. C major. A minor. fundamental. third, or 1st inversion. fifth, or 2d inversion.

Here we have in Example 7, the *fundamental* position, namely, *one*, *three*, and *five*. In the second measure will be found the *first* inversion, consisting of the *third*, *fifth* and *octave* position of the fundamental tone, the *bass* being carried up an *octave*. In the third measure occurs the *second* inversion; the *fifth* of the original chord becomes the fundamental or bass, the original *third* becomes a sixth, and the

original *fundamental* or *bass* becomes a fourth of the new chord. In this inversion of the *three-fold* chord we have produced *two* new intervals without using different letters; they are a *fourth* in the first inversion, and *four-six* in the second inversion.

The image displays three systems of musical notation, each consisting of a treble and bass staff. Each system illustrates the relationship between a major key and its relative minor key through chord inversions.

- System 1:**
  - G major:** Shows three chords in first and second inversion. The original fundamental bass (G) is shown as a reference note above the second inversion chord.
  - E minor:** Shows three chords in first and second inversion. The original fundamental bass (E) is shown as a reference note above the second inversion chord.
- System 2:**
  - F major:** Shows three chords in first and second inversion. The original fundamental bass (F) is shown as a reference note above the second inversion chord.
  - D minor:** Shows three chords in first and second inversion. The original fundamental bass (D) is shown as a reference note above the second inversion chord.
- System 3:**
  - D major:** Shows three chords in first and second inversion. The original fundamental bass (D) is shown as a reference note above the second inversion chord.
  - B minor:** Shows three chords in first and second inversion. The original fundamental bass (B) is shown as a reference note above the second inversion chord.

In all cases, the first inversion chord is shown with a '4' (fourth) and the second inversion chord is shown with a '4' and a '6' (four-six), indicating the intervals from the original fundamental bass.



Two systems of musical notation. The first system shows the B $\flat$  major chord in the treble staff and the G minor chord in the bass staff. The second system shows the B $\flat$  major chord in the treble staff and the G minor chord in the bass staff. The chords are written as triads. The B $\flat$  major chord consists of B $\flat$ , D $\flat$ , and F. The G minor chord consists of G, B $\flat$ , and D $\flat$ . The word "or" is written between the two staves in the second system, indicating an alternative voicing.

B $\flat$  major. G minor.

Two systems of musical notation. The first system shows the A major chord in the treble staff and the F $\sharp$  minor chord in the bass staff. The second system shows the A major chord in the treble staff and the F $\sharp$  minor chord in the bass staff. The chords are written as triads. The A major chord consists of A, C $\sharp$ , and E. The F $\sharp$  minor chord consists of F $\sharp$ , A, and C. The word "or" is written between the two staves in the second system, indicating an alternative voicing.

A major. F $\sharp$  minor.

We will now give a few practical examples of the movement of the three-fold chords and their inversions.

Ex. 8.

Two systems of musical notation. The first system shows the fundamental position of the chords V, IV, V, V, I, I, IV. The second system shows the first inversion of the chords V, V, I, I, IV. The chords are written as triads. The word "Fundamental position." is written below the first system, and the word "1st inversion." is written below the second system.

Fundamental position. 1st inversion.

V IV V V I I IV

2d inversion.

V V I I IV V V I

In the above, the bass moves up to the *fourth*, the *fifth*, the *octave*, and back to the *fundamental* tone again; this makes what is called a *cadence*, or a satisfactory close. The inversions are treated in just the same manner as the fundamental chord. The minor three-fol chord takes the same course as the major.





## INVERSION OF THE PRINCIPAL FUNDAMENTAL CHORDS REVIEWED.

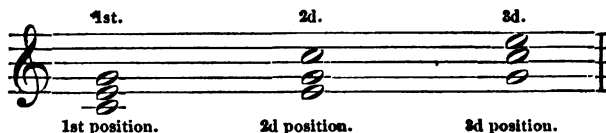
The chord stands thus: c, e, g: c is the *fundamental* note, e is the *fundamental third*, and g is the *fundamental fifth*.



E, is a *major third* from the root, g, is a *major fifth* from the root, and a *minor third* above the *major third*. In the *first inversion* of the chord, the *fundamental third* becomes the *temporary root*, and the *fundamental fifth* becomes the *temporary third*: the *fundamental root* becomes a *sixth* to the *temporary root*.



In the *second inversion* the original fifth becomes the *temporary root*: the original *third* becomes the *sixth* to the *temporary root*, and the *original root* becomes a *fourth* to the *temporary root*.



This is stated as plainly as it can very well be, and we will now take up the other chords of the scale in succession.

All chords of the seventh are *dissonant*, and require *preparation* and *resolution*, except the *dominant*, which resolves directly to its *tonic*. The three-fold harmonies are *consonant*, as a general thing, and require no preparation. *Consonant* intervals may be *doubled*, but *dissonant* intervals are very rarely doubled, though there are exceptions to all rules.

Major sevenths are very dissonant, but are often employed to good advantage by the ingenious composer.

#### SEQUENCE OF SEVENTHS.

The bass moves up a *fourth* or down a *fifth*. This exercise can be carried through the scale, and also must be transposed into other keys for practice.

C7      F#7      b7      e7      a7      d7

$G^7$        $C^7$        $F^7$        $^{\flat}b^7$        $e^7$        $a^7$

Dominant sevenths are the most important, and we give them with the rule which governs their movement.

**RULE.** In dominant sevenths, the *root* moves up a fourth, or down a fifth; but when in one of the upper parts, it remains unchanged. The *third* moves up one degree. The *fifth* generally down one degree, but

sometimes up one degree. The seventh always down one degree. Dominant sevenths on the minor scale observe the same rule. Be sure to transpose into other keys for practice.

**Dominant sevenths.**

7  
6  
6  
4  
3  
6  
4  
3

**Minor to major.**

7  
6  
5  
6  
4  
4  
2

**MINOR FOUR-FOLD CHORDS. (SEVENTHS.)**

Minor sevenths on the second degree of the scale. **RULE.**—They move to dominant sevenths and like them are resolved.

7  
6  
5  
6  
4  
4  
2

Minor sevenths on the third degree of the scale.

First system of musical notation for minor sevenths on the third degree of the scale. It consists of a treble and bass staff. The treble staff contains four chords: G#3-A3-B3, G#3-A3-B3, G#3-A3-B3, and G#3-A3-B3. The bass staff contains four notes: G2, A2, B2, and G2. Below the bass staff are the numbers 7, 7, 6, and 7.

Second system of musical notation for minor sevenths on the third degree of the scale. It consists of a treble and bass staff. The treble staff contains four chords: G#3-A3-B3, G#3-A3-B3, G#3-A3-B3, and G#3-A3-B3. The bass staff contains four notes: G2, A2, B2, and G2. Below the bass staff are the numbers 6, 7, 4, and 7.

Minor sevenths on the sixth degree of the scale.

Third system of musical notation for minor sevenths on the sixth degree of the scale. It consists of a treble and bass staff. The treble staff contains four chords: G#3-A3-B3, G#3-A3-B3, G#3-A3-B3, and G#3-A3-B3. The bass staff contains four notes: G2, A2, B2, and G2.

Fourth system of musical notation for minor sevenths on the sixth degree of the scale. It consists of a treble and bass staff. The treble staff contains four chords: G#3-A3-B3, G#3-A3-B3, G#3-A3-B3, and G#3-A3-B3. The bass staff contains four notes: G2, A2, B2, and G2.



## Diminished sevenths.

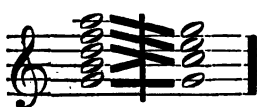


## CHAPTER VI.

## TONES FOREIGN TO THE HARMONY.

The harmonic combinations which have been thus far explained as *fundamental* harmonies always consist of the same tones, but there are *other* tones which frequently occur in music not found or explained in any of the fundamental harmonies; such tones not belonging strictly to the fundamental harmonies are called *foreign* to the harmony. In relation to the above, we will remark that an additional tone may be added without changing any notes of the harmonies already explained. This is the case with the *dominant* sevenths and *minor* sevenths when a *major* or a *minor* third is added above the seventh. This harmony appears as a *major* or *minor* ninth, g b d f a.

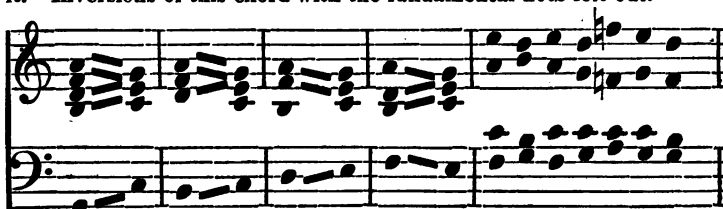
Major ninth.



Minor ninth.



These chords are called chords of the *seventh - ninth*, because the upper note is situated a ninth from the bass note, or *nine* degrees from it. Inversions of this chord with the fundamental note left out.



Minor ninths.  
Fig. 1.



When and where the ninth is to be applied, is not in our province to explain; we only have to do with the naming and progression of it. (treatment.)

Fig. 2.

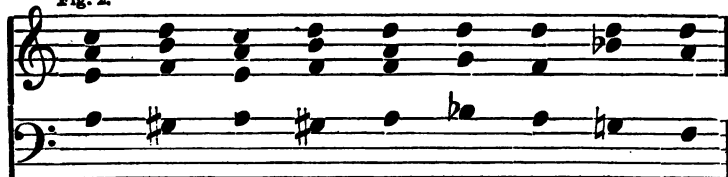


Fig. 3.

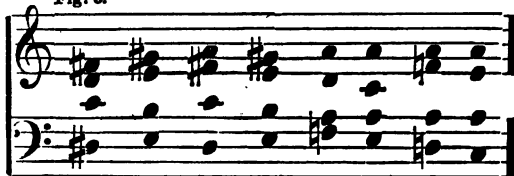
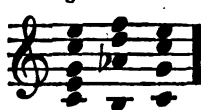


Fig. 4.



The major ninth sounds more agreeable when it lies higher than the *original third*: if it lies *below* the third, the effect is disagreeable, and on this account, composers, as far as possible, avoid such positions.

Fig. 5.



Fig. 6.



The major ninth usually sounds still more smoothly when it lies higher than the *fundamental fifth*. As there are other chords of the ninth to be explained hereafter, it becomes necessary to give the ninths above treated, particular names, and we shall therefore call them *independent ninths*. Major independent ninths in some of the harsher or more disagreeable positions cited for examples.

Fig. 7.

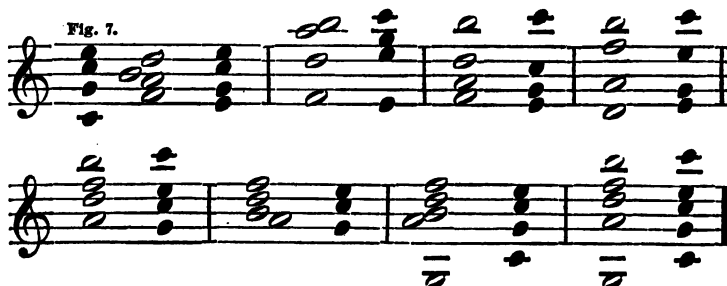


Fig. 8. Dispersed and close position.

Fig. 8 displays two staves of musical notation. The top staff shows seven triads in dispersed position (wide intervals). The bottom staff shows the same seven triads in close position (narrow intervals). The triads are labeled below the bottom staff: Bb7, Ab7, C#7, Gb7, G#7, Eb7, and D#7.

Fig. 9.

Fig. 9 displays two staves of musical notation. The top staff shows six triads in dispersed position. The bottom staff shows the same six triads in close position. The triads are labeled below the bottom staff: E7, Eb7, D7, C#7, C7, and Bb7.

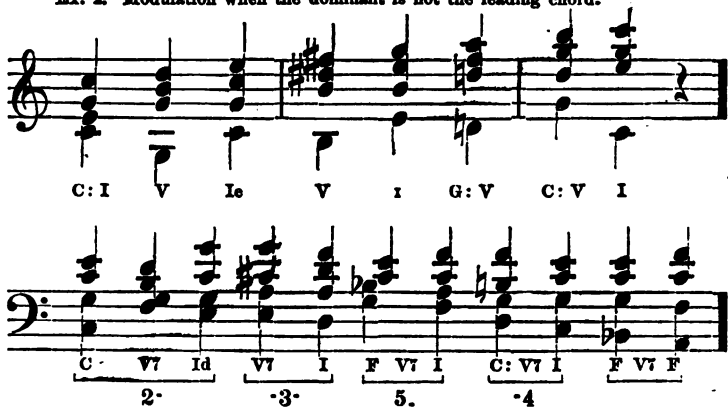
Fig. 10. Resolution.

Fig. 10 displays two staves of musical notation. The top staff shows a triad in dispersed position. The bottom staff shows the same triad in close position, with the notes resolved into a single line.

Fig. 11. Prepared sevenths.

MODULATION BY THE FOUR-FOLD DOMINANT HARMONY.  
Ex. 1.

Ex. 2. Modulation when the dominant is not the leading chord.



Ex. 2.

Major.

Minor.

I V I VI II V7 I

A IV I OII7 I V7 I

Detailed description: The example consists of two systems of musical notation. The first system is labeled 'Major.' and shows a treble and bass staff. The treble staff contains six chords in first inversion (triads with the third in the bass), and the bass staff contains six single notes corresponding to the roots of these chords. Below the bass staff are the Roman numerals I, V, I, VI, II, V7, I. The second system is labeled 'Minor.' and follows the same format. The treble staff contains six chords in first inversion, and the bass staff contains six single notes. Below the bass staff are the Roman numerals A, IV, I, OII7, I, V7, I. The 'OII7' likely represents a diminished seventh chord.

A four-fold chord with the fundamental tone omitted and a ninth substituted therefor, makes it very difficult to distinguish. The cases most easily distinguished are those of the first inversion, or, where the chords stand in thirds, one above another. Fig. 3.

The appearance of the *ninth* with the root left out, is like the *seventh*, and becomes very difficult for the unlearned to distinguish; but we hope farther on to make it plain, even to the novice. *Minor* independent ninths, are often called chords of the *diminished seventh*, because the bass tone, (the root being left off,) forms a *diminished seventh* with the upper tone; as,  $g\sharp, b, d, f$ ;  $B, d, f, a\flat$ , &c.

C7 B $\flat$ 7 D7 A $\flat$ 7 A7 F $\sharp$ 7 E $\flat$ 7 F7

Detailed description: This figure shows a single bass staff with seven chords, each represented by a dense, wavy line of notes. Below the staff are the labels for each chord: C7, B $\flat$ 7, D7, A $\flat$ 7, A7, F $\sharp$ 7, and E $\flat$ 7. The '7' indicates a seventh chord, and the symbols like  $\flat$  and  $\sharp$  indicate the specific quality and key of each chord.

These chords are all arranged at the distance of a minor third from each other: distance *between* each note is a minor third.  $c\sharp, e, g, b\flat, d\flat; d, f, a\flat, c\flat: f\sharp, a, c, e\flat: c, e\flat, g\flat, b\flat\flat: a\sharp, c\sharp, e, g: g, b\flat, d\flat, f\flat$ . It will be seen that this four-fold chord introduces tones foreign to the harmony, and may with propriety be called a chromatic harmony.

The intervals which the ninth forms with other elements of the harmony.

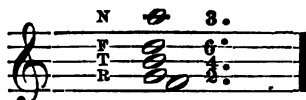
What intervals the ninth forms with other elements of the harmony where they lie higher than the ninth. Major ninth, minor seventh, major fifth, major third and major second. Minor ninth, diminished seventh, minor fifth, minor third and minor second. If we go into an examination of the different positions and inversions of the chords under consideration, we shall find in the first inversion of a four-fold chord with the ninth, the original major third becomes the bass tone; the major fifth becomes a small third: the seventh becomes its minor fifth, and its major ninth becomes its diminished seventh, and the fundamental tone itself becomes a minor sixth, or:



In the *second inversion*, the original major fifth becomes the bass tone: the seventh becomes a minor third: the minor ninth becomes either a major or minor fifth: the major third becomes a major sixth, the fundamental tone itself becomes a minor fourth.



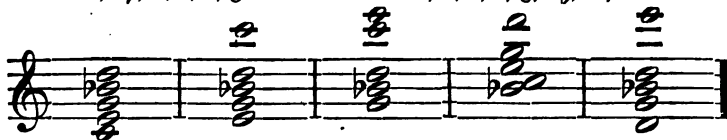
In the *third inversion* of the four-fold chord with ninth, the seventh becomes the bass tone: the third becomes the major fourth: the fourth becomes the major sixth: the major or minor ninth becomes a major or minor third: the root appears as a major second.



Finally in the fourth inversion, or when the ninth becomes the bass tone, the third becomes a major second: the fifth becomes a minor or major fourth: the seventh becomes a major or minor sixth: and the fundamental tone becomes a major or minor seventh.



As a useful exercise, the student had better write out all the inversions of these chords, and give a definite account to himself of every note. The major four-fold chord of C with ninth, becomes c, e, g, b $\flat$ , d: first inversion, e, g, b $\flat$ , d, c: second inversion, g, b $\flat$ , d, c, e: third inversion, b $\flat$ , d, c, e, g: fourth inversion, d, c, e, g, b $\flat$ , or,



In like manner other ninths can be taken up and gone through with.

The reason why we call the above ninths *independent*, is because they are not confined to the condition of transient notes or suspension, but are entirely independent of such notes.

#### TRANSITION.

One method of introducing tones into a harmony which are entirely foreign to it is that which is denominated *transition*.

Transition depends on circumstances: a voice, before giving a particular note that belongs to a fundamental harmony, may *first* give the next higher or lower note, thus passing over to its proper harmonic



tone: the previous struck note is called the *transition* tone, because it is struck in advance of the principal tone, the tone to which it leads.

This species of transition produces a rich source of new combinations of which it is not in the province of this book to treat in a definite manner. There are many ways in which tones foreign to the fundamental harmonies may be introduced, and which must be learned through a course of practical writing under a competent teacher.

#### CONSONANT AND DISSONANT CHORDS.

Teachers of music usually divide all harmonies into *consonant* and *dissonant*, or pleasing and displeasing. Consonant tones are those which constitute the three-fold harmonies, *first*, *third* and *fifth*: and every other tone or combination, is called *dissonant*. Thus: the fundamental tone, its third and fifth, are *consonant*; with the *seventh*, *ninth*, or any other combination added, it is called *dissonant*.

#### PREPARATION.

It has been ascertained that there are chords which are more or less disagreeable, such as the major and minor sevenths, and the ninths: this harshness can be done away with by what is termed *preparation*; by introducing the discordant note into a previous chord. This preparing the note beforehand, is called the *preparation of dissonance*. The tone itself, as it is heard in the chord of preparation, is called *tone of preparation*. *Most sevenths require preparation*. The major seventh is very disagreeable to the ear, but the minor sevenths are much less so, though both require to be prepared.

The dominant sevenths do not require any preparation, but may resolve directly to a concord. Tones which are foreign to the fundamental harmonies must be prepared, like the *ninth*, when the fundamental tone is heard with it.

Theorists have laid down the rule that *all dissonances must be prepared*, but the rule is often broken, as in the case of *dominant sevenths*, and therefore the rule does not hold good in all cases.

## EXAMPLES OF PREPARING THE SEVENTH.

*Essential harmonies of the key* are the *tonic chord*, or major three-fold chord, and the *four-fold* chord on the major fifth: this last harmony is next after the tonic harmony, and is called *dominant* harmony, and the fifth is *the dominant*. The next harmony nearly related to this key, is the three-fold chord on the *minor fourth* of the tonic,—a three-fold chord that is *major* when the tonic harmony is *major*, and *minor* when the tonic harmony is *minor*. It is called *sub-dominant* chord, because it is the under fifth of the tonic. The three essential harmonies of C, are c, e, g: g, b, d: g, b, d, f, and f, a, c.

The *four* most essential harmonies of every key are the *major* and *minor* three-fold chord: the *three* and *four-fold* harmony on the *fifth* or *dominant*, and the *three-fold* chord on the *sub-dominant*. These are the heads of the family; they determine its character, they impress the **key** on the ear, and are called the most essential harmonies of the key. Whole pieces are often constructed on the above harmonies, and even on the *tonic* and *dominant*. There are other harmonies nearly related, which will appear more plain to the student as he progresses in his studies. The harmonies of each key have already been given, but we will once more enumerate them.

## MAJOR SCALE.



C C7, d, d7, e, e7, F, F7, G, G7, a, a7, Ob, Ob7.

## MINOR SCALE.



a, a7, Ob, Ob7, d, d7, E, E7, F, F7, G#7, G#7.

Mode of representing the different harmonies. For *major* harmonies we will use large capital letters thus: G, B, D, F: for *minor* harmonies, small letters will be used thus: a, d, e, and for diminished harmonies a small cypher will be placed before the letter thus;  $\circ a$ ,  $\circ d$ . For *four-fold* chord a figure 7 will be used after the letter, thus: d7, D7, &c. The following figures will be used underneath the chords; I, IV, V, or large figures for major chords and small figures ( $\text{II}$ ,  $\text{III}$ ,  $\text{VI}^\circ$ ,  $\text{VII}7$ ) for minor and diminished. Tables showing all the appropriate harmonies of *major* and *minor* keys should be constructed on all the different degrees of the scale, like the following example. C, C $\sharp$ , C $\flat$  or B, B $\flat$ , A, A $\sharp$ , G $\sharp$ , G, G $\flat$ , F $\sharp$ , F, F $\flat$ , E, E $\flat$ , D, D $\flat$ , C $\sharp$ , &c. Each harmony is capable of having more than one key, and may be represented by a *large* letter at one time, and by a *small* letter at another. On the *first degree*, only a *major three-fold* and *major four-fold* chord can occur—thus: I or I7. The harmony of the *second degree* is always a minor three-fold and a minor four-fold chord, thus,  $\text{II}$ ,  $\text{II}7$ .

The harmony of the *third degree* is minor, thus:  $\text{III}$  or  $\text{III}7$ .

The harmony of the *fourth degree* is major; IV or IV7.

The harmony of the *fifth degree* is major; V or V7.

The harmony of the *sixth degree* is minor; VI or VI7.

The harmony of the *seventh degree* is diminished;  $\circ \text{VII}$  or  $\circ \text{VII}7$ .

The harmony in minor keys on the *first degree* of the scale is always i. On the *second degree* is  $\circ \text{ii}$  or  $\circ \text{ii}7$ . On the *fourth degree* iv or iv7. On the *fifth degree* v or v7. On the *sixth degree* vi or vi7. On the *seventh degree*  $\circ \text{vii}$ . It will be seen that *major three-fold* chords occur on the *first, fourth and fifth* of major keys, and *third, fourth or fifth and sixth* of minor keys. Minor three-fold chords occur on the *second, third and sixth* of major scales, and on the *first and fourth* of minor keys. *Diminished three-fold* chords occur on the *seventh* in *major*, and *second and seventh* in *minor* keys. Dominant sevenths occur only on the *fifth* of the scale. *Minor sevenths* occur on the *second, third and sixth* degrees, and *diminished* on the *seventh*; *major sevenths* are found on the *first and fourth* of major, and *fourth* of *minor*, &c.

The *major* or *minor* keys which are the nearest related, are those which are most like each other, and are the *dominant* and *sub-dominant* of each key. The relationship of keys must be left here, as we do not wish to make this a complete book of harmony, and will close this part of our subject with a table of near related keys.

TABLE OF THE RELATIONSHIPS OF KEYS.

<i>C</i>	—	<i>a</i>	—	<i>A</i>	—	<i>f</i> <sup>♯</sup>	—	<i>F</i> <sup>♯</sup>	—	<i>d</i> <sup>♯</sup>	—	<i>D</i> <sup>♯</sup>	—	<i>b</i> <sup>♯</sup>	—	<i>B</i> <sup>♯</sup>	—	<i>g</i> <sup>×</sup>
<i>F</i>	—	<i>d</i>	—	<i>D</i>	—	<i>b</i>	—	<i>B</i>	—	<i>g</i> <sup>♯</sup>	—	<i>G</i> <sup>♯</sup>	—	<i>e</i> <sup>♯</sup>	—	<i>E</i> <sup>♯</sup>	—	<i>c</i> <sup>×</sup>
<i>B</i> <sup>♯</sup>	—	<i>g</i>	—	<i>G</i>	—	<i>e</i>	—	<i>E</i>	—	<i>c</i> <sup>♯</sup>	—	<i>C</i> <sup>♯</sup>	—	<i>a</i> <sup>♯</sup>	—	<i>A</i> <sup>♯</sup>	—	<i>f</i> <sup>×</sup>
<i>E</i> <sup>♯</sup>	—	<i>c</i>	—	<i>C</i>	—	<i>a</i>	—	<i>A</i>	—	<i>f</i> <sup>♯</sup>	—	<i>F</i> <sup>♯</sup>	—	<i>d</i> <sup>♯</sup>	—	<i>D</i> <sup>♯</sup>	—	<i>b</i> <sup>♯</sup>
<i>A</i> <sup>♯</sup>	—	<i>f</i>	—	<i>F</i>	—	<i>d</i>	—	<i>D</i>	—	<i>b</i>	—	<i>B</i>	—	<i>g</i> <sup>♯</sup>	—	<i>G</i> <sup>♯</sup>	—	<i>e</i> <sup>♯</sup>
<i>D</i> <sup>♯</sup>	—	<i>b</i> <sup>♯</sup>	—	<i>B</i> <sup>♯</sup>	—	<i>g</i>	—	<i>G</i>	—	<i>e</i>	—	<i>E</i>	—	<i>c</i> <sup>♯</sup>	—	<i>C</i> <sup>♯</sup>	—	<i>a</i> <sup>♯</sup>
<i>G</i> <sup>♯</sup>	—	<i>e</i> <sup>♯</sup>	—	<i>E</i> <sup>♯</sup>	—	<i>c</i>	—	<i>C</i>	—	<i>a</i>	—	<i>A</i>	—	<i>f</i> <sup>♯</sup>	—	<i>F</i> <sup>♯</sup>	—	<i>d</i> <sup>♯</sup>
<i>C</i> <sup>♯</sup>	—	<i>a</i> <sup>♯</sup>	—	<i>A</i> <sup>♯</sup>	—	<i>f</i>	—	<i>F</i>	—	<i>d</i>	—	<i>D</i>	—	<i>b</i>	—	<i>B</i>	—	<i>g</i> <sup>♯</sup>
<i>F</i> <sup>♯</sup>	—	<i>d</i> <sup>♯</sup>	—	<i>D</i> <sup>♯</sup>	—	<i>b</i> <sup>♯</sup>	—	<i>B</i> <sup>♯</sup>	—	<i>g</i>	—	<i>G</i>	—	<i>e</i>	—	<i>E</i>	—	<i>c</i> <sup>♯</sup>
<i>B</i> <sup>♯♯</sup>	—	<i>g</i> <sup>♯</sup>	—	<i>G</i> <sup>♯</sup>	—	<i>e</i> <sup>♯</sup>	—	<i>E</i> <sup>♯</sup>	—	<i>c</i>	—	<i>C</i>	—	<i>a</i>	—	<i>A</i>	—	<i>f</i> <sup>♯</sup>
<i>E</i> <sup>♯♯</sup>	—	<i>c</i> <sup>♯</sup>	—	<i>C</i> <sup>♯</sup>	—	<i>a</i> <sup>♯</sup>	—	<i>A</i> <sup>♯</sup>	—	<i>f</i>	—	<i>F</i>	—	<i>d</i>	—	<i>D</i>	—	<i>b</i>
<i>A</i> <sup>♯♯</sup>	—	<i>f</i> <sup>♯</sup>	—	<i>F</i> <sup>♯</sup>	—	<i>d</i> <sup>♯</sup>	—	<i>D</i> <sup>♯</sup>	—	<i>b</i> <sup>♯</sup>	—	<i>B</i> <sup>♯</sup>	—	<i>g</i>	—	<i>G</i>	—	<i>e</i>
<i>D</i> <sup>♯♯</sup>	—	<i>b</i> <sup>♯♯</sup>	—	<i>B</i> <sup>♯♯</sup>	—	<i>g</i> <sup>♯</sup>	—	<i>G</i> <sup>♯</sup>	—	<i>e</i> <sup>♯</sup>	—	<i>E</i> <sup>♯</sup>	—	<i>c</i>	—	<i>C</i>	—	<i>a</i>

It might be useful, *as an exercise*, to go through the preceding table carefully and propose questions somewhat as follows: What keys are most nearly related to *C*-major? What to *c*-minor? What to *f*-minor? &c.—What keys are thus related in the second degree?—What in the third degree?—Which of these relationships are the more or the less intimate?—In which degree are *F* and *E* related to each other?—What is the relationship between *c* and *a*?—&c.

#### TEMPERAMENT.

To tune an instrument with entire purity and exactness, with the tone *g* as the *perfectly pure fifth*, that is, so that the velocity of the vibrations of the tone *g* would be to those of the tone *c* as 3 to 2, *g* accomplishing three vibrations in the time *c* accomplishes two—and *d* as a pure *fifth* or under *fourth* and so on through *a*, *e*, *b*, *f*<sup>♯</sup>, *c*<sup>♯</sup>, and *g*<sup>♯</sup>.

The result of this *pure* tuning would necessitate a great number of keys, and for this reason, another and more practical method has been adopted. The difference between *d*<sup>♯</sup> and *e*<sup>♯</sup> must be *equally* divided, and so through all the enharmonic keys of the piano. This manner of tuning is called *equal* temperament. No two instruments can be tuned *absolutely* alike, because the *timber* or *quality* of tone does not correspond. A stringed instrument produces a different quality of tone from a wind instrument, and so we might go through all the various instruments of the orchestra, &c., &c.

### CHAPTER VII.

#### MODULATION.

Modulation is the changing of harmonies *in* or *out* of a key. That modulation in which a piece remains in one key, is called *modulation in the key*. That modulation which, after the ear becomes attuned to one key is changed into another, is called *modulating out of the key*, or *digressive modulation*. *Digressive modulation* then, is the changing of attunement from one key to another.



key, and a piece of music usually begins with the tonic harmony, though there are instances where a piece of music begins with other than tonic chords. The ear once attuned to a particular key does not change its state of attunement into that of another key without a sufficient cause.

The means by which modulations are made are so *numerous*, and so *diversified*, that we shall not enter into detailed statements, but shall leave the subject in the hands of the teacher of *practical harmony*, to explain to his pupils, how and in what way modulations are best effected. There are many forbidden progressions, many rules laid down for this and that chord to be doubled and not to be doubled, together with a thousand and one rules given for naming and omitting chords, which are only given to be broken, that we deem it inexpedient to argue at length any of these disputed points. For this reason, we have left the entire matter of arbitrary rules to the judgment of the teacher, to teach according to his educational standpoint, and according to the necessities of the occasion. Hoping our labors have not been in vain, we wish our students GodsPEED.

### PRACTICAL EXAMPLES IN WRITING HARMONY CORRECTLY.

#### PROGRESSION.

Two consecutive Fifths or Octaves must not follow each other, as they sound unpleasantly on the ear, and make what is termed *false* progression.

A few examples.

Used.



## Octaves and Fifths.

Bad.

## First position. Good.

CI    GV    CI    FIV    GV    CI

## Second position.

## Third position.



First. Second.

C FIV CI GV CI

Third.

TRIADS IN THREE POSITIONS ON THE PRINCIPAL HARMONIES OF THE SCALE.

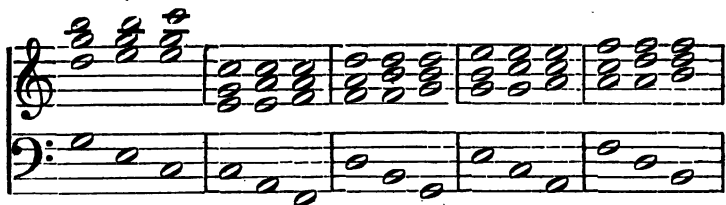
These examples show how chords can move without making consecutive Fifths and Octaves.

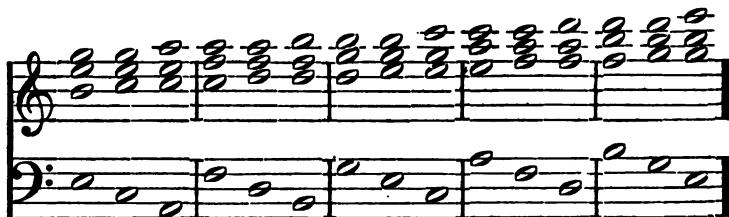
CI GVFIVCI G V CI C I FIVGV C I FIV CI



The above exercises must be transposed into all the other major keys.

Sequence.





All the exercises given above must be transposed into all major keys in order to familiarize the student with the triads:

#### EXERCISES TO BE WRITTEN.

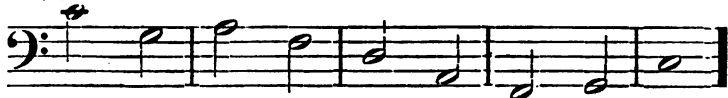
No. 1.



No. 2.



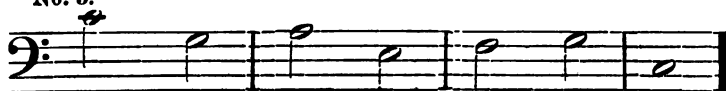
No. 3.



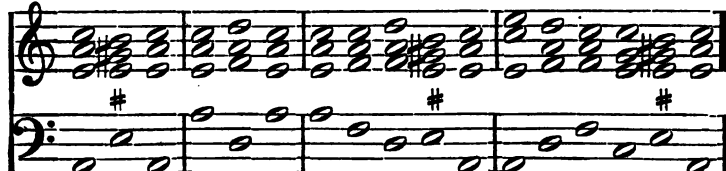
## No. 4.



## No. 5.



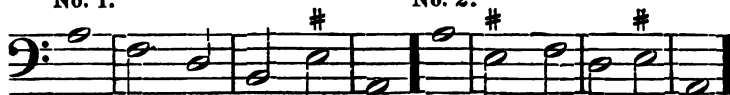
*A minor.* The seventh of the minor scale must be sharpened.



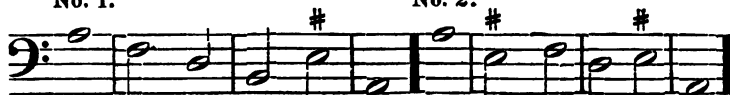
A sharp or flat over the bass note indicates that the third in the harmony must be sharpened or flatted.

## Minor exercises.

## No. 1.



## No. 2.



## No. 3.



## No. 4.



\* Indicates the fifth is sharpened.

## No. 5. \*

D minor. 5



\* A the highest note in harmony.

No. 6.



No. 7.

E minor.



No. 8.

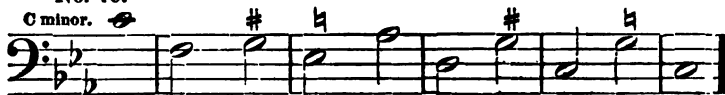


No. 9.

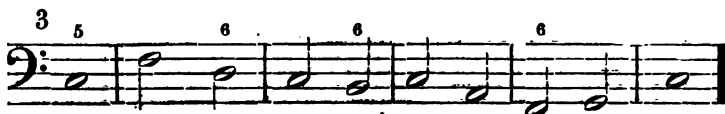
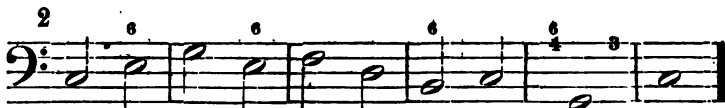


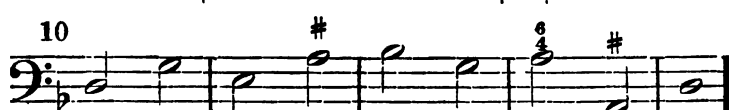
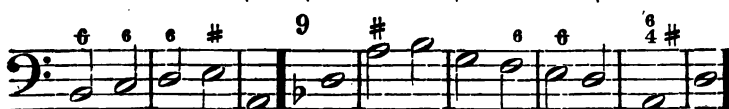
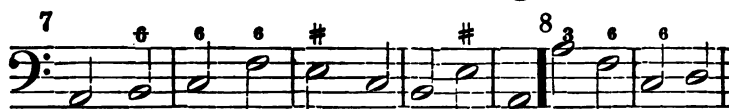
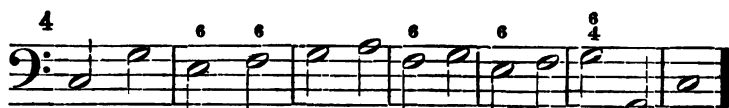
No. 10.

C minor.



## EXERCISES INTRODUCING THE CHORD OF THE SIXTH.







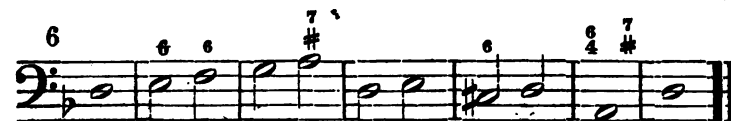
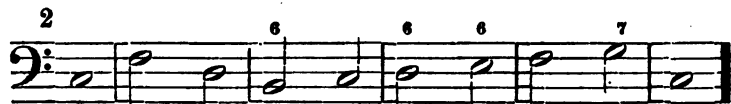
HOW THE CHORD OF THE SIXTH CAN BE USED WITHOUT PRODUCING FALSE PROGRESSIONS.



CHORD OF THE SIXTH AND FOURTH.



## CHORDS OF THE SEVENTH.





## INVERSION OF SEVENTHS WITH FIGURES.

7 6 6 6  
5 5 4 4  
3 3 3 2

1 6 5 6 6 3 2 6 6 4 7

2 3 4 3 6 6 5 6 8 7

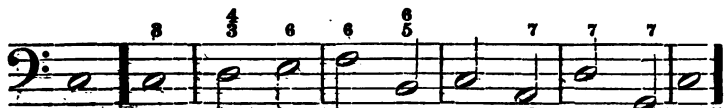
3 5 3 2 6 4 3 6 5 6 4 7

4 5 2 6 6 4 3 6 6 8 7

5 6 5 6 6 3 6 8 7

6 6 6 6 5 6 6 4 7

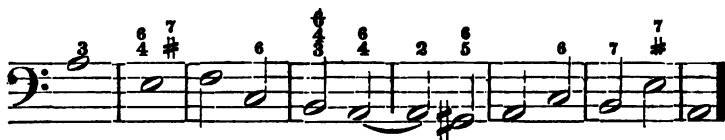
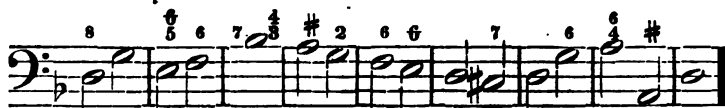
7 6 6 3 2 6 6 6 7



Seven staves of musical notation in bass clef, featuring various figured bass numbers and accidentals. The notation is as follows:

- Staff 1:** 8, 7, 6, 6/5, 7, 7, 7, 6/5
- Staff 2:** 3, 6, 6, 7, 7#, 6#, 7, 7#
- Staff 3:** 3, #, 7/5#, 6, 4/2, 6, 6, 6/5, 6, 6/4, 7#
- Staff 4:** 8, 7, 6, 6, 7, 7#, 6/4, 4/2, 6, 7, 7#
- Staff 5:** 8, 4/2, 6, 7, 7, #, 6/5, 6, 6/4, 7#
- Staff 6:** 8, 6, 6, 6/5, 6/5, 6, 6/5
- Staff 7:** 3, 6/5, 4/2, 7, 4/3, 2, 6, 7, 7







\*

## EXAMPLE.



Seven staves of musical notation in bass clef, featuring various accidentals and figured bass numbers. The notation is as follows:

- Staff 1:** 3,  $\frac{7}{4}$ ,  $\frac{6\sharp}{2}$ , 6, 7, 6,  $\frac{6}{4}$ , 7, 6,  $\sharp$ , 6, 7, 7.
- Staff 2:** 5, 3, 5,  $\sharp$ ,  $\frac{7}{5}$ , 6, 6, 3, 5,  $\sharp$ , 6, 6,  $\frac{6}{5}$ .
- Staff 3:** 3, 3,  $\frac{6}{5}$ , 6, 6, 6,  $\sharp$ , 2, 6, 7,  $\sharp$ , 6, 5,  $\sharp$ .
- Staff 4:** 8, 6,  $\frac{6}{5}$ ,  $\frac{5}{3}$ ,  $\sharp$ , 2, 6,  $\sharp$ , 6, 4, 5,  $\frac{6}{4}$ , 6, 4,  $\sharp$ .
- Staff 5:** 8, 2, 7,  $\frac{6}{4}$ ,  $\frac{3}{2}$ , 6,  $\frac{6}{5}$ , 6, 4,  $\sharp$ ,  $\frac{7}{2}$ , 6, 7, 6, 4,  $\sharp$ .
- Staff 6:** 3, 2,  $\frac{6}{5}$ ,  $\frac{5}{3}$ ,  $\frac{4}{2}$ ,  $\sharp$ , 6,  $\frac{6}{4}$ ,  $\frac{3}{2}$ , 6, 5,  $\sharp$ .
- Staff 7:**  $\frac{6}{4}$ ,  $\frac{3}{2}$ , 6, 6, 5, 7,  $\flat$ , 6, 6, 5.

Seven staves of musical notation in bass clef, featuring various accidentals and figured bass numbers. The notation is as follows:

- Staff 1:** Bass clef. Notes: G<sup>3</sup>, A<sup>6</sup>, B<sup>5</sup>, C<sup>b3</sup>, D<sup>6</sup>, E<sup>4</sup>, F<sup>5</sup>, G<sup>2</sup>, A<sup>6</sup>, B<sup>7</sup>, C<sup>7</sup>.
- Staff 2:** Bass clef. Notes: G<sup>3</sup>, A<sup>6</sup>, B<sup>7b</sup>, C<sup>b</sup>, D<sup>6</sup>, E<sup>b</sup>, F<sup>2</sup>, G<sup>4</sup>, A<sup>6</sup>, B<sup>7</sup>, C<sup>4</sup>, D<sup>6</sup>, E<sup>7</sup>, F<sup>6</sup>, G<sup>4</sup>, A<sup>7</sup>.
- Staff 3:** Bass clef. Notes: G<sup>6</sup>, A<sup>6</sup>, B<sup>#</sup>, C<sup>4</sup>, D<sup>6</sup>, E<sup>7b</sup>, F<sup>-</sup>, G<sup>#</sup>, A<sup>#</sup>, B<sup>#</sup>.
- Staff 4:** Bass clef. Notes: G<sup>6</sup>, A<sup>6</sup>, B<sup>#</sup>, C<sup>6</sup>, D<sup>6</sup>, E<sup>4</sup>, F<sup>6</sup>, G<sup>6</sup>, A<sup>7</sup>, B<sup>4</sup>, C<sup>#</sup>.
- Staff 5:** Bass clef. Notes: G<sup>5</sup>, A<sup>6</sup>, B<sup>6</sup>, C<sup>#</sup>, D<sup>2</sup>, E<sup>6</sup>, F<sup>6</sup>, G<sup>5</sup>, A<sup>7</sup>, B<sup>7</sup>, C<sup>6</sup>, D<sup>4</sup>, E<sup>7</sup>.
- Staff 6:** Bass clef. Notes: G<sup>3</sup>, A<sup>6</sup>, B<sup>6</sup>, C<sup>6</sup>, D<sup>6</sup>, E<sup>4</sup>, F<sup>5</sup>, G<sup>6</sup>, A<sup>4</sup>, B<sup>3</sup>, C<sup>6</sup>, D<sup>8</sup>, E<sup>7</sup>.
- Staff 7:** Bass clef. Notes: G<sup>3</sup>, A<sup>4</sup>, B<sup>4b</sup>, C<sup>4</sup>, D<sup>6</sup>, E<sup>4</sup>, F<sup>4b</sup>, G<sup>6</sup>.



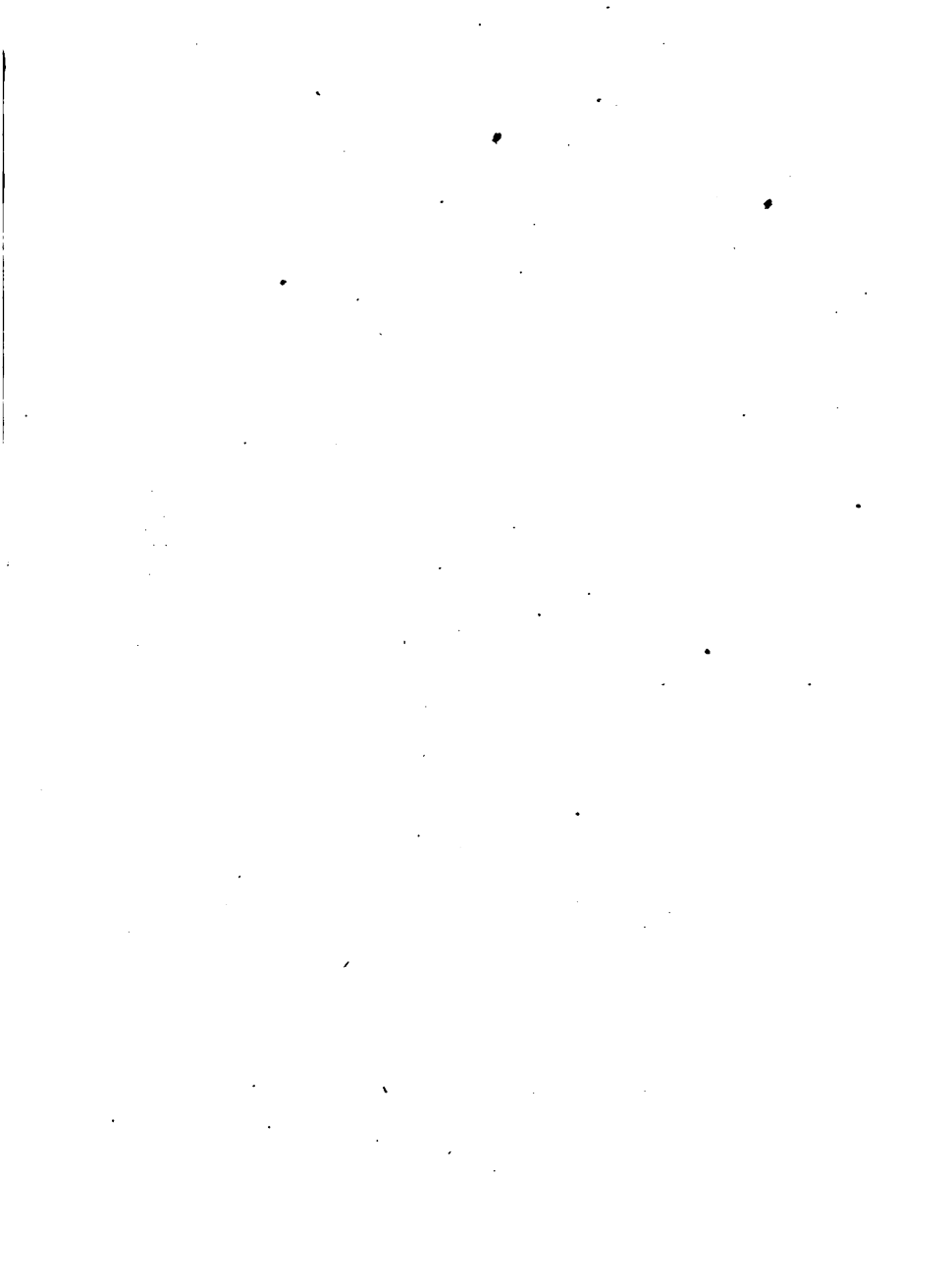
Seven staves of musical notation in bass clef, featuring various chords and figures. The notation includes notes, rests, and chord symbols (e.g., 6/4, 5/5, 6/5, 6/5b, 6/4, 7, 32, 6, 6/3, 6b, 6/5, 6, 6, 7, 6, 4b, 6, 6, 6/5, 6, 6/5, 6/5, 6, 7, 7, 6, 5, #, 6, 7b, 6, 6/5, 6, 6/5, #, 6, 6, 6, 3, 4b, 2, 6, 6b, 6/5, 6, 6, 4, 3, 6, 6, 6, 4, 5, 2, 6, 6, 5, 2, 6).

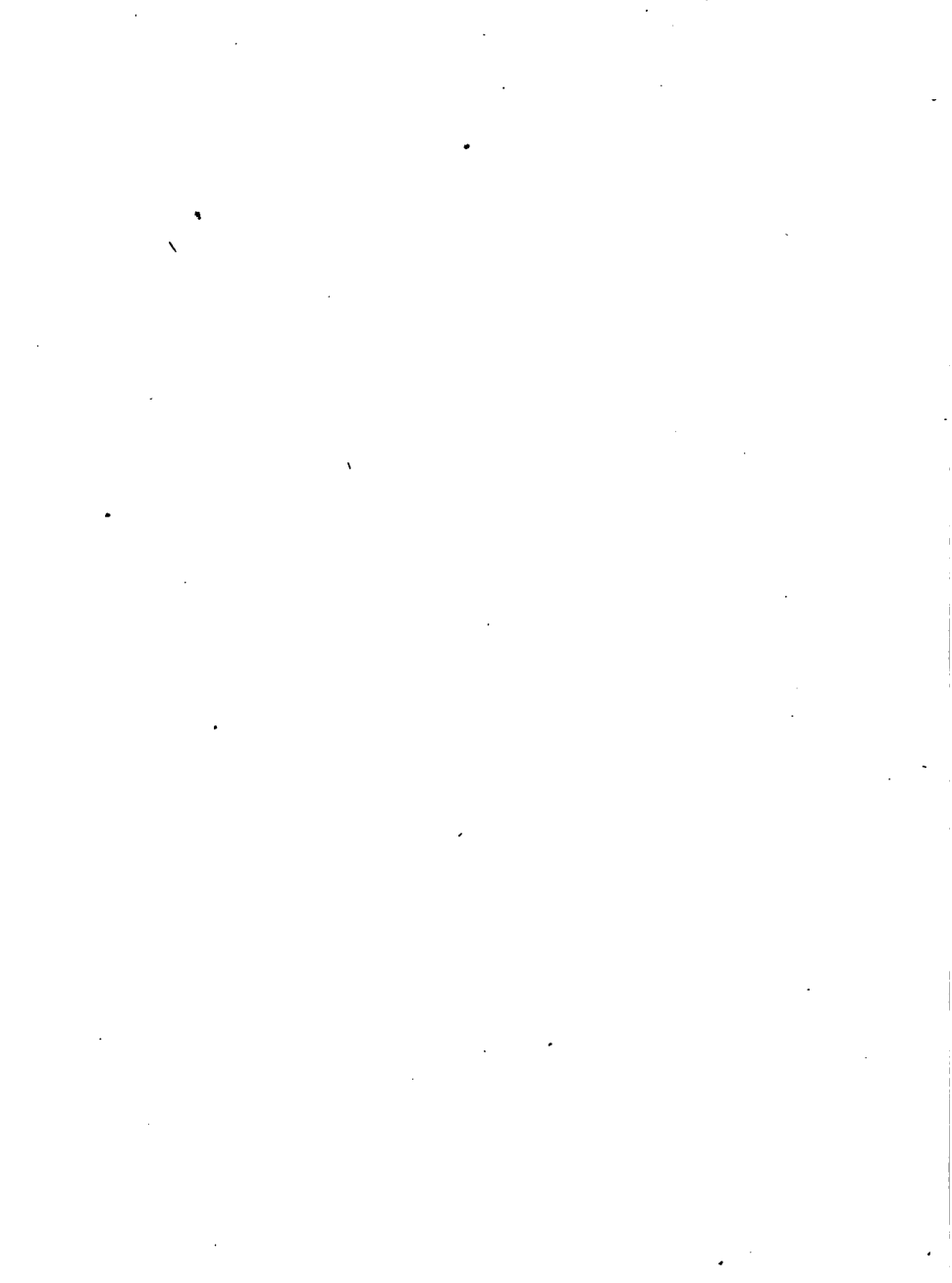
The image displays five staves of musical notation in bass clef. Each staff contains a sequence of notes with figured bass numbers written above them. The notation is as follows:

- Staff 1:** Notes G2, A2, B2, C3, D3, E3. Figured bass: 7, 7, 6/5, 6/5, 5.
- Staff 2:** Notes F#2, G2, A2, B2, C3, D3, E3, F#3, G3, A3, B3, C4. Figured bass: 5, 2, 6/5, 6, 7-7, 6/5, 6, 6/5.
- Staff 3:** Notes D#3, E3, F#3, G3, A3, B3, C4, D4, E4, F#4, G4, A4, B4, C5. Figured bass: 3, 2, 6/5, 6/4/3, 2, 6/5, 4, 7, 6, 6, 6, 6/4, 7.
- Staff 4:** Notes E4, F#4, G4, A4, B4, C5, D5, E5, F#5, G5, A5, B5, C6. Figured bass: 5, 6/5, 7, 4/3, 6/5, 6, 6/5, #.
- Staff 5:** Notes D5, E5, F#5, G5, A5, B5, C6, D6, E6, F#6, G6, A6, B6, C7. Figured bass: 5, 5/4/3, 6, 6, 2, 6, 6, 2, 6/5, 6, 6/5.

If the student has been diligent and faithful in writing all the examples given in this book, he will have no trouble in writing from any figured bass, or understanding any chords used in musical composition.











**Mus 319.2**

Theory and rudimental harmony.

**Loeb Music Library**

BDH



3 2044 041 181 92

